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Gregory Benford

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T H E M A G A Z I N E O F
Fantasy & Science Fiction

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EDITORIAL

KRISTINE KATHRYN RUSCH

I RECENTLY got a note in *F&SF's* topic on the GENie electronic bulletin board: *Got the January issue. No book column. :(*

Now, for those of you who don't waste hours on-line, the little glyph is a sad face. (Look at it closely.) For those of you who do waste time on-line (and here I am, waving to my buddies), you can find the *F&SF* topic on GENie's Science Fiction Roundtable as Category 22, Topic 3. We usually natter about the magazine, although sometimes we get off topic. This week, we discussed the January editorial (and movies) until that two-sentence post scrolled across my screen.

No book column. :(

Back in the days when I subscribed, I would have pouted too. I always read the book columns first. And still do, truth be told. When those columns cross my desk, all other work gets put aside. Over the past two years, our book columns

went through an upheaval. Algis Budrys left to edit his own magazine, and John Kessel came on board. Just recently, Orson Scott Card got buried in work and had to give up the column (to his (and our) dismay), and so this month, Charles de Lint takes over the "Books to Look For" column.

Charles was born in the Netherlands and is presently a citizen of Canada. He grew up in such diverse places as the Yukon, Turkey, Lebanon, and the province of Quebec. A full-time writer and musician, he currently makes his home in Ottawa, Ontario, with his wife MaryAnn Harris, a textile artist and musician.

Charles is a professional musician who performs with Jump at the Sun, a band which specializes in traditional and contemporary Celtic music. He plays flute, fiddle, whistles, button accordion, bouzouki, guitar and bodhran (an Irish goatskin drum). He is also the proprietor/editor of Triskell Press, a small publishing house that specializes in occasional

fantasy chapbooks and magazines.

His bibliography of published novels goes on for four single spaced pages. Let me give you some of the highlights:

In 1993, Tor published *Into the Green* and *Dreams Underfoot: the Newford Collection* (short stories) in hardcover. In paperback, they published *Spiritwalk* and *The Little Country*. Charles also writes horror under the name Samuel M. Key. The third Key novel, *I'll be Watching You*, has just appeared from Berkley. His short stories in *F&SF*, "The Bone Woman" and "Paperjacks," were nominated for the World Fantasy Award. He has won a number of awards, including the William L. Crawford Award for the Best New

Fantasy Author of 1984, given by the International Association for the Fantastic in the Arts, and the Canadian SF/Fantasy Award (known as the Casper) for his novel, *Jack, the Giant-Killer*.

In addition, Charles has a long list of non-fiction credits. His book reviews have appeared in *Pulphouse: A Fiction Magazine*, *Mystery Scene*, *The Horror Show*, *Science Fiction Review*, and *OtherRealms*.

I am pleased to have Charles on board. He will provide a monthly book column, while John Kessel will continue to appear every other month.

From now on, we shall have a book column in every issue. Welcome to *F&SF*, Charles. :)



Ben Bova returns to our pages with a wonderful story about the way that ideas work. Set in Germany around the turn of the century, "Inspiration" brings together a number of famous historical characters, including a well known scientist and an equally well known science fiction writer.

Ben has been writing about science and scientists since junior high school when he first visited the Fels Planetarium in Philadelphia. He has gone on to make a career of that interest as both an award winning science fiction writer and an award winning editor. His most recent novel, Mars, has earned great critical acclaim on both sides of the Atlantic. His next novel, Death Dream, will appear in a few months from Bantam Books.

Inspiration

By Ben Bova

HE WAS AS CLOSE TO DESPAIR as only a lad of seventeen can be. "But you heard what the professor said," he moaned. "It is all finished.

There is nothing left to do."

The lad spoke in German, of course. I had to translate it for Mr. Wells.

Wells shook his head. "I fail to see why such splendid news should upset the boy so."

I said to the youngster, "Our British friend says you should not lose hope. Perhaps the professor is mistaken."

"Mistaken? How could that be? He is a famous man! A nobleman! A baron!"

I had to smile. The lad's stubborn disdain for authority figures would become world-famous one day. But it was not in evidence this summer afternoon in A.D. eighteen ninety-six.

We were sitting in a sidewalk café with a magnificent view of the Danube and the city of Linz. Delicious odors of cooking sausages and bakery pastries

wafted from the kitchen inside. Despite the splendid warm sunshine, though, I felt chilled and weak, drained of what little strength I had remaining.

"Where is that blasted waitress?" Wells grumbled. "We've been here half an hour, at the least."

"Why not just lean back and enjoy the afternoon, sir?" I suggested tiredly. "This is the best view in all the area."

Herbert George Wells was not a patient man. He had just scored a minor success in Britain with his first novel and had decided to treat himself to a vacation in Austria. He came to that decision under my influence, of course, but he did not yet realize that. At age twenty-nine, he had a lean, hungry look to him that would mellow only gradually with the coming years of prestige and prosperity.

Albert was round-faced and plumpish; still had his baby fat on him, although he had started a mustache as most teenaged boys did in those days. It was a thin, scraggly black wisp, nowhere near the full white brush it would become. If all went well with my mission.

It had taken me an enormous amount of maneuvering to get Wells and this teenager to the same place at the same time. The effort had nearly exhausted all my energies. Young Albert had come to see Prof. Thomson with his own eyes, of course. Wells had been more difficult; he had wanted to see Salzburg, the birthplace of Mozart. I had taken him instead to Linz, with a thousand assurances that he would find the trip worthwhile.

He complained endlessly about Linz, the city's lack of beauty, the sour smell of its narrow streets, the discomfort of our hotel, the dearth of restaurants where one could get decent food — by which he meant burnt mutton. Not even the city's justly famous *Linzertorte* pleased him. "Not as good as a decent trifle," he grouched. "Not as good by half."

I, of course, knew several versions of Linz that were even less pleasing, including one in which the city was nothing more than charred radioactive rubble and the Danube so contaminated that it glowed at night all the way down to the Black Sea. I shuddered at that vision and tried to concentrate on the task at hand.

It had almost required physical force to get Wells to take a walk across the Danube on the ancient stone bridge and up the Pöstlingberg to this little sidewalk café. He had huffed with anger when we had started out from our hotel at the city's central square, then soon was puffing with exertion as we

toiled up the steep hill. I was breathless from the climb also. In later years a tram would make the ascent, but on this particular afternoon we had been obliged to walk.

He had been mildly surprised to see the teenager trudging up the precipitous street just a few steps ahead of us. Recognizing that unruly crop of dark hair from the audience at Thomson's lecture that morning, Wells had graciously invited Albert to join us for a drink.

"We deserve a beer or two after this blasted climb," he said, eying me unhappily.

Panting from the climb, I translated to Albert, "Mr. Wells...invites you...to have a refreshment...with us."

The youngster was pitifully grateful, although he would order nothing stronger than tea. It was obvious that Thomson's lecture had shattered him badly. So now we sat on uncomfortable cast iron chairs and waited — they for the drinks they had ordered, me for the inevitable. I let the warm sunshine soak into me and hoped it would rebuild at least some of my strength.

The view was little short of breathtaking: the brooding castle across the river, the Danube itself streaming smoothly and actually blue as it glittered in the sunlight, the lakes beyond the city and the blue-white snow peaks of the Austrian Alps hovering in the distance like ghostly petals of some immense unworldly flower.

But Wells complained, "That has to be the ugliest castle I have ever seen."

"What did the gentleman say?" Albert asked.

"He is stricken by the sight of the Emperor Friedrich's castle," I answered sweetly.

"Ah. Yes, it has a certain grandeur to it, doesn't it?"

Wells had all the impatience of a frustrated journalist. "Where is that damnable waitress? Where is our beer?"

"I'll find the waitress," I said, rising uncertainly from my iron-hard chair. As his ostensible tour guide, I had to remain in character for a while longer, no matter how tired I felt. But then I saw what I had been waiting for.

"Look!" I pointed down the steep street. "Here comes the professor himself!"

William Thomson, First Baron Kelvin of Largs, was striding up the pavement with much more bounce and energy than any of us had shown. He

was seventy-one, his silver-gray hair thinner than his impressive gray beard, lean almost to the point of looking frail. Yet he climbed the ascent that had made my heart thunder in my ears as if he were strolling amiably across some campus quadrangle.

Wells shot to his feet and leaned across the iron rail of the café. "Good afternoon, your Lordship." For a moment I thought he was going to tug at his forelock.

Kelvin squinted at him. "You were in my audience this morning, were you not?"

"Yes, m'lud. Permit me to introduce myself: I am H.G. Wells."

"Ah. You're a physicist?"

"A writer, sir."

"Journalist?"

"Formerly. Now I am a novelist."

"Really? How keen."

Young Albert and I had also risen to our feet. Wells introduced us properly and invited Kelvin to join us.

"Although I must say," Wells murmured as Kelvin came 'round the railing and took the empty chair at our table, "that the service here leaves quite a bit to be desired."

"Oh, you have to know how to deal with the Teutonic temperament," said Kelvin jovially as we all sat down. He banged the flat of his hand on the table so hard it made us all jump. "Service!" he bellowed. "Service here!"

Miraculously, the waitress appeared from the doorway and trod stubbornly to our table. She looked very unhappy; sullen, in fact. Sallow pouting face with brooding brown eyes and downturned mouth. She pushed back a lock of hair that had strayed across her forehead.

"We've been waiting for our beer," Wells said to her.

"And now this gentleman has joined us — "

"Permit me, sir," I said. It was my job, after all. In German I asked her to bring us three beers and the tea that Albert had ordered and to do it quickly.

She looked the four of us over as if we were smugglers or criminals of some sort, her eyes lingering briefly on Albert, then turned without a word or even a nod and went back inside the café.

I stole a glance at Albert. His eyes were riveted on Kelvin, his lips parted as if he wanted to speak but could not work up the nerve. He ran a hand

nervously through his thick mop of hair. Kelvin seemed perfectly at ease, smiling affably, his hands laced across his stomach just below his beard; he was the man of authority, acknowledged by the world as the leading scientific figure of his generation.

"Can it be really true?" Albert blurted at last. "Have we learned everything of physics that can be learned?"

He spoke in German, of course, the only language he knew. I immediately translated for him, exactly as he asked his question.

Once he understood what Albert was asking, Kelvin nodded his gray old head sagely. "Yes, yes. The young men in the laboratories today are putting the final dots over the i's, the final crossings of the t's. We've just about finished physics; we know at last all there is to be known."

Albert looked crushed.

Kelvin did not need a translator to understand the youngster's emotion. "If you are thinking of a career in physics, young man, then I heartily advise you to think again. By the time you complete your education there will be nothing left for you to do."

"Nothing?" Wells asked as I translated. "Nothing at all?"

"Oh, add a few decimal places here and there, I suppose. Tidy up a bit, that sort of thing."

Albert had failed his admission test to the Federal Polytechnic in Zurich. He had never been a particularly good student. My goal was to get him to apply again to the Polytechnic and pass the exams.

Visibly screwing up his courage, Albert asked, "But what about the work of Roentgen?"

Once I had translated, Kelvin knit his brows. "Roentgen? Oh, you mean that report about mysterious rays that go through solid walls? X-rays, is it?"

Albert nodded eagerly.

"Stuff and nonsense!" snapped the old man. "Absolute bosh. He may impress a few medical men who know little of science, but his x-rays do not exist. Impossible! German daydreaming."

Albert looked at me with his whole life trembling in his piteous eyes. I interpreted:

"The professor fears that x-rays may be illusory, although he does not as yet have enough evidence to decide, one way or the other."

Albert's face lit up. "Then there is hope! We have not discovered

everything as yet!"

I was thinking about how to translate that for Kelvin when Wells ran out of patience. "Where is that blasted waitress?"

I was grateful for the interruption. "I will find her, sir."

Dragging myself up from the table, I left the three of them, Wells and Kelvin chatting amiably while Albert swiveled his head back and forth, understanding not a word. Every joint in my body ached and I knew that there was nothing anyone in this world could do to help me. The café was dark inside, and smelled of stale beer. The waitress was standing at the bar, speaking rapidly, angrily, to the stout barkeep in a low venomous tone. The barkeep was polishing glasses with the end of his apron; he looked grim and, once he noticed me, embarrassed.

Three seidels of beer stood on a round tray next to her, with a single glass of tea. The beers were getting warm and flat, the tea cooling, while she blistered the bartender's ears.

I interrupted her vicious monologue. "The gentlemen want their drinks," I said in German.

She whirled on me, her eyes furious. "The *gentlemen* may have their beers when they get rid of that infernal Jew!"

Taken aback somewhat, I glanced at the barkeep. He turned away from me.

"No use asking him to do it," the waitress hissed. "We do not serve Jews here. I do not serve Jews and neither will he!"

The café was almost empty this late in the afternoon. In the dim shadows I could make out only a pair of elderly gentlemen quietly smoking their pipes and a foursome, apparently two married couples, drinking beer. A six-year-old boy knelt at the far end of the bar, laboriously scrubbing the wooden floor.

"If it's too much trouble for you," I said, and started to reach for the tray.

She clutched at my outstretched arm. "No! No Jews will be served here! Never!"

I could have brushed her off. If my strength had not been drained away I could have broken every bone in her body and the barkeep's, too. But I was nearing the end of my tether and I knew it.

"Very well," I said softly. "I will take only the beers."

She glowered at me for a moment, then let her hand drop away. I removed the glass of tea from the tray and left it on the bar. Then I carried the beers out

into the warm afternoon sunshine.

As I set the tray on our table, Wells asked, "They have no tea?"

Albert knew better. "They refuse to serve Jews," he guessed. His voice was flat, unemotional, neither surprised nor saddened.

I nodded as I said in English, "Yes, they refuse to serve Jews."

"You're Jewish?" Kelvin asked, reaching for his beer.

The teenager did not need a translation. He replied, "I was born in Germany. I am now a citizen of Switzerland. I have no religion. But, yes, I am a Jew."

Sitting next to him, I offered him my beer.

"No, no," he said with a sorrowful little smile. "It would merely upset them further. I think perhaps I should leave."

"Not quite yet," I said. "I have something that I want to show you." I reached into the inner pocket of my jacket and pulled out the thick sheaf of paper I had been carrying with me since I had started out on this mission. I noticed that my hand trembled slightly.

"What is it?" Albert asked.

I made a little bow of my head in Wells's direction. "This is my translation of Mr. Wells's excellent story, *The Time Machine*."

Wells looked surprised, Albert curious. Kelvin smacked his lips and put his half-drained seidel down.

"Time machine?" asked young Albert.

"What's he talking about?" Kelvin asked.

I explained, "I have taken the liberty of translating Mr. Wells's story about a time machine, in the hope of attracting a German publisher."

Wells said, "You never told me —"

But Kelvin asked, "Time machine? What on earth would a time machine be?"

Wells forced an embarrassed, self-deprecating little smile. "It is merely the subject of a tale I have written, m'lud: a machine that can travel through time. Into the past, you know. Or the, uh, future."

Kelvin fixed him with a beady gaze. "Travel into the past or the future?"

"It is fiction, of course," Wells said apologetically.

"Of course."

Albert seemed fascinated. "But how could a machine travel through time? How do you explain it?"

Looking thoroughly uncomfortable under Kelvin's wilting eye, Wells said hesitantly, "Well, if you consider time as a dimension — "

"A dimension?" asked Kelvin.

"Rather like the three dimensions of space."

"Time as a fourth dimension?"

"Yes. Rather."

Albert nodded eagerly as I translated. "Time as a dimension, yes! Whenever we move through space we move through time as well, do we not? Space and time! Four dimensions, all bound together!"

Kelvin mumbled something indecipherable and reached for his half-finished beer.

"And one could travel through this dimension?" Albert asked. "Into the past or the future?"

"Utter bilge," Kelvin muttered, slamming his emptied seidel on the table. "Quite impossible."

"It is merely fiction," said Wells, almost whining. "Only an idea I toyed with in order to — "

"Fiction. Of course," said Kelvin, with great finality. Quite abruptly, he pushed himself to his feet. "I'm afraid I must be going. Thank you for the beer."

He left us sitting there and started back down the street, his face flushed. From the way his beard moved I could see that he was muttering to himself.

"I'm afraid we've offended him," said Wells.

"But how could he become angry over an idea?" Albert wondered. The thought seemed to stun him. "Why should a new idea infuriate a man of science?"

The waitress bustled across the patio to our table. "When is this Jew leaving?" she hissed at me, eyes blazing with fury. "I won't have him stinking up our café any longer!"

Obviously shaken, but with as much dignity as a seventeen-year-old could muster, Albert rose to his feet. "I will leave, madame. I have imposed on your so-gracious hospitality long enough."

"Wait," I said, grabbing at his jacket sleeve. "Take this with you. Read it. I think you will enjoy it."

He smiled at me, but I could see the sadness that would haunt his eyes forever. "Thank you, sir. You have been most kind to me."

He took the manuscript and left us. I saw him already reading it as he walked slowly down the street toward the bridge back to Linz proper. I hoped he would not trip and break his neck as he ambled down the steep street, his nose stuck in the manuscript.

The waitress watched him too. "Filthy Jew. They're everywhere! They get themselves into everything."

"That will be quite enough from you," I said as sternly as I could manage. She glared at me and headed back for the bar.

Wells looked more puzzled than annoyed, even after I explained what had happened.

"It's their country, after all," he said, with a shrug of his narrow shoulders. "If they don't want to mingle with Jews there's not much we can do about it, is there?"

I took a sip of my warm flat beer, not trusting myself to come up with a properly polite response. There was only one timeline in which Albert lived long enough to make an effect on the world. There were dozens where he languished in obscurity or was gassed in one of the death camps.

Wells's expression turned curious. "I didn't know you had translated my story."

"To see if perhaps a German publisher would be interested in it," I lied.

"But you gave the manuscript to that Jewish fellow."

"I have another copy of the translation."

"You do? Why would you —"

My time was almost up, I knew. I had a powerful urge to end the charade. "That young Jewish fellow might change the world, you know."

Wells laughed.

"I mean it," I said. "You think that your story is merely a piece of fiction. Let me tell you, it is much more than that."

"Really?"

"Time travel will become possible one day."

"Don't be ridiculous!" But I could see the sudden astonishment in his eyes. And the memory. It was I who had suggested the idea of time travel to him. We had discussed it for months back when he had been working for the newspapers. I had kept the idea in the forefront of his imagination until he finally sat down and dashed off his novel.

I hunched closer to him, leaned my elbows wearily on the table.

"Suppose Kelvin is wrong? Suppose there is much more to physics than he suspects?"

"How could that be?" Wells asked.

"That lad is reading your story. It will open his eyes to new vistas, new possibilities."

Wells cast a suspicious glance at me. "You're pulling my leg."

I forced a smile. "Not altogether. You would do well to pay attention to what the scientists discover over the coming years. You could build a career writing about it. You could become known as a prophet if you play your cards properly."

His face took on the strangest expression I had ever seen: he did not want to believe me and yet he did; he was suspicious, curious, doubtful and yearning — all at the same time. Above everything else he was ambitious, thirsting for fame. Like every writer, he wanted to have the world acknowledge his genius.

I told him as much as I dared. As the afternoon drifted on and the shadows lengthened, as the sun sank behind the distant mountains and the warmth of day slowly gave way to an uneasy deepening chill, I gave him carefully veiled hints of the future. A future. The one I wanted him to promote.

Wells could have no conception of the realities of time travel, of course. There was no frame of reference in his tidy nineteenth-century English mind of the infinite branchings of the future. He was incapable of imagining the horrors that lay in store. How could he be? Time branches endlessly and only a few, a precious handful of those branches manage to avoid utter disaster.

Could I show him his beloved London obliterated by fusion bombs? Or the entire northern hemisphere of Earth depopulated by man-made plagues? Or a devastated world turned to a savagery that made his Morlocks seem compassionate?

Could I explain to him the energies involved in time travel or the damage they did to the human body? The fact that time travelers were volunteers sent on suicide missions, desperately trying to preserve a timeline that saved at least a portion of the human race? The best future I could offer him was a twentieth century tortured by world wars and genocide. That was the best I could do.

So all I did was hint, as gently and subtly as I could, trying to guide him toward that best of all possible futures, horrible though it would seem to him.

I could neither control nor coerce anyone, all I could do was to offer a bit of guidance. Until the radiation dose from my trip through time finally killed me.

Wells was happily oblivious to my pain. He did not even notice the perspiration that beaded my brow despite the chilling breeze that heralded nightfall.

"You appear to be telling me," he said at last, "that my writings will have some sort of positive effect on the world."

"They already have," I replied, with a genuine smile.

His brows rose.

"That teenaged lad is reading your story. Your concept of time as a dimension has already started his fertile mind working."

"That young student?"

"Will change the world," I said. "For the better."

"Really?"

"Really," I said, trying to sound confident. I knew there were still a thousand pitfalls in young Albert's path. And I would not live long enough to help him past them. Perhaps others would, but there were no guarantees.

I knew that if Albert did not reach his full potential, if he were turned away by the university again or murdered in the coming holocaust, the future I was attempting to preserve would disappear in a global catastrophe that could end the human race forever. My task was to save as much of humanity as I could.

I had accomplished a feeble first step in saving some of humankind, but only a first step. Albert was reading the time-machine tale and starting to think that Kelvin was blind to the real world. But there was so much more to do. So very much more.

We sat there in the deepening shadows of the approaching twilight, Wells and I, each of us wrapped in our own thoughts about the future. Despite his best English self-control, Wells was smiling contentedly. He saw a future in which he would be hailed as a prophet. I hoped it would work out that way. It was an immense task that I had undertaken. I felt tired, gloomy, daunted by the immensity of it all. Worst of all, I would never know if I succeeded or not.

Then the waitress bustled over to our table. "Well, have you finished? Or are you going to stay here all night?"

Even without a translation Wells understood her tone. "Let's go," he said, scraping his chair across the flagstones.

I pushed myself to my feet and threw a few coins on the table. The waitress scooped them up immediately and called into the café, "Come here and scrub down this table! At once!"

The six-year-old boy came trudging across the patio, lugging the heavy wooden pail of water. He stumbled and almost dropped it; water sloshed onto his mother's legs. She grabbed him by the ear and lifted him nearly off his feet. A faint tortured squeak issued from the boy's gritted teeth.

"Be quiet and your do work properly," she told her son, her voice murderously low. "If I let your father know how lazy you are..."

The six-year-old's eyes went wide with terror as his mother let her threat dangle in the air between them.

"Scrub that table good, Adolf," his mother told him. "Get rid of that damned Jew's stink."

I looked down at the boy. His eyes were burning with shame and rage and hatred. Save as much of the human race as you can, I told myself. But it was already too late to save him.

"Are you coming?" Wells called to me.

"Yes," I said, tears in my eyes. "It's getting dark, isn't it?"





BOOKS

JOHN KESSEL

CANONS LEFT AND RIGHT

The Oxford Book of Science Fiction Stories, ed. Tom Shippey, Oxford University Press, 1992. \$22.50 cloth.

The Norton Book of Science Fiction, ed. Ursula K. Le Guin and Brian Attebery, Norton, 1993. \$27.95 cloth.

Modern Classics of Science Fiction, ed. Gardner Dozois, St. Martin's Press, 1992. \$15.95 trade paperback.

Modern Classic Short Novels of Science Fiction, ed. Gardner Dozois, St. Martin's Press, 1994.

THE FIRST science fiction books I read were the great collections of golden age sf published in the fifties, books like Healy and McComas's *Adventures in Time and Space*, the big anthologies that Groff Conklin assembled, and *The Best from F&SF*

series edited by Anthony Boucher. That's where I first encountered Asimov's "Nightfall" and Heinlein's "All You Zombies" and Bester's "Fondly Fahrenheit" and a hundred others. These stories gave me my first real understanding of what sf was, and I loved it.

It was only later that I realized that it wasn't just me that these books were imprinting: they were establishing the canon of sf. They were how guys like Asimov, Sturgeon, Bradbury, Bester and Heinlein, who published their stories in magazines that disappeared a month after they hit the stands, got to be big names. The Golden Age of SF didn't get to be golden until people looked back on it and preserved it. Nobody would have thought about applying the term "canon formation" to a lowly form like sf back then, but whether they knew it or not that's what these anthologists were doing: creating the

canon for science fiction.

The canon is the list of works in any genre that are generally agreed to be great. The word "canon" comes from religion, where it refers to the books of the Bible officially recognized as god-inspired Holy Scripture, or the list of church-recognized saints. The fact that anyone would apply such a term to writing tells you a lot about the "church of high culture" that until recently dominated universities.

It's only been in the last decade or so that anyone has given serious thought to the fact that a phrase like "works generally agreed to be great" conceals a few land mines: what do you mean by "great?" *By whom* is this "agreeing" being done? And *what standards* are they applying? The conclusion of many today is that the standards for any canon are more subjective than people imagined in years past. More than a statement of fact, a canon is an expression of values, a political decision,¹ a mirror reflecting back on the selector and her society/culture.

People fight about it the way baseball fans argue whether someone ought to be on the All-Star team. This is a powerful insight. It can

arouse cynicism, but also a kind of anthropological interest. It brings into view questions that normally are buried. We open a book and instead of saying "so this is the best that science fiction has to offer," we ask, "why did this editor select these particular stories?"

Forty years have gone by since those anthologies I read as a boy were compiled, and a lot of new sf has gone under the bridge. Until recently there have been few anthologies attempting to assess the sf of the last thirty years. But Gardner Dozois's *Modern Classics of Science Fiction* is very much in the tradition of the Conklin anthologies, and with the Oxford and Norton books the debate rises to a new level.

The surest sign of a canon in establishment is the teaching anthology, and Oxford and Norton specialize in such books. They're *in the business* of establishing canons for teachers, though with these new books both publishers seem to be trying to hedge their bets, aiming for the commercial, library and academic markets all at once. Still, how many anthologies for the sf fan have a bibliography like the Oxford, or a companion Teacher's Guide like the

¹ By political I don't necessarily mean party affiliation or left/right dogma. I mean expressing strongly held values organized along some principle and applied across many different situations.

Norton?

Each of these books is a face put forward, an argument, a case being made. First, since they're picking the "best" they'll leave out most of what gets published, and in that way they are already not representative. Each editor has some conscious criteria for selection. But there's also the possibility of *deducing* values from the selections.

How do these books compare, to us sf insiders, as faces turned toward the outside? Let's take a look at what they're telling the world that sf is.²

Tom Shippey's *The Oxford Book of Science Fiction Stories* contains thirty stories. It starts with H.G. Wells's "The Land Ironclads" from 1903 and finishes with David Brin's 1990 "Piecework." As such it covers a much larger period than the Norton and St. Martin's books.

As far as agendas go, Shippey has a most definite thesis, and like a good college teacher he invents a new term for it. Sf is "fabril" literature, he tells us in his introduction, the opposite of pastoral. It is "overwhelmingly urban, disruptive, future-oriented, eager for novelty; its central image is the 'faber,' the...creator of artifacts

in general — metallic, crystalline, genetic, or even social."

Science fiction, according to Shippey, is about technology, or society seen as technology. Characters and quality of writing take a back seat. "There is no absolute need (in the science fiction *short story* at least) for a hero, heroine or central figure." SF is change oriented, anti-literary or at least indifferent to conventional literary standards, and if not anti-humanist then often favors technocratic values over humane ones.

This is a credible argument and certainly it can be seen to apply to a lot of what has been published and read as science fiction over the years, in particular Golden Age sf. The problem is that it leaves out a lot of other fiction that not only has also been published as sf, but that *is*, by most any definition other than this fabril hobbyhorse, sf. For example, from the 1950s the *Oxford Book* contains no stories by Sturgeon, Bradbury, Bester, Budrys, Sheckley, Leiber, Kornbluth, or Knight. I can't believe I'm alone in thinking that these are among the finest, if not the finest, sf short story writers of the '50s. But the "faber" doesn't play a large part in

² Let me admit some self interest. I've got stories in two of these books, and I (along with others the editors asked) suggested stories for The Norton Book of Science Fiction. And since a review is as much a mirror as an anthology, my reaction to these books is necessarily as subjective as their selections.

their work, and nobody reads stylists like Sturgeon, Bradbury or Bester for their emphasis on man as a creator of artifacts.

Even more remarkably, considering that they would seem to be just the writers Shippey would be looking for to illustrate his case, we find nothing by Asimov, Heinlein, Anderson, or Dickson in this book. And when we get to the period after 1960 the anthology becomes even more problematical: from these later decades there is no Ellison, Silverberg, Wilhelm, Haldeman, Bishop, Benford or Dozois. From the '80s, after Bruce Sterling and William Gibson, we get Paul J. McAuley, Hilbert Schenk, and David Brin, but no Willis, Shepard, Swanwick, Robinson, Kelly, Kress, or Murphy, who have done much more powerful work in the short story.

I think the problem is that the center of sf, at least in the short story, has moved away from Shippey's "fabril" conception, and his thesis, as he comes closer to the present, causes his book to reflect contemporary sf less and less accurately. It's easy, and in general quite unfair, to pick holes in an anthology by creating lists of who's left out. But in a book that purports to say what science fiction is to the unschooled audience, the cumulative effect of so

many omissions calls into question the whole enterprise, and detracts from the stories that are there. People in the field will instantly see what Shippey is leaving out; people outside have no way of knowing.

With a title like *The Oxford Book of Science Fiction Stories* we expect a representative selection. This is not a representative book, or rather, it creates a new representation of sf. Shippey's purpose may not have been to reflect sf as it has been read and valued by its practitioners and readers, but that's how this book is being sold. It's unclear whether he intended to make a case that this is what *real* sf is all about, or whether he was simply purveying a kind of sf for our consideration. If the latter, then he is leaving a lot of work out that has been published and generally held as among sf's best over a long period of time.

This is not to say that this is not a good anthology, or that it does not contain thoughtful selections. There are wonderful choices here: Rudyard Kipling's proto-Heinlein elitist rant "As Easy as ABC," A.E. van Vogt's hymn to the Campbellian superman, "The Monster," James Blish's strange and suggestive "How Beautiful with Banners," one of Cordwainer Smith's best Instrumentality tales, "The Ballad of Lost C'mell," Gene Wolfe's

little-known demonstration of how economics and human perversity could bring back slavery, "How the Whip Came Back," and Bruce Sterling's assault on Campbellian sf (almost an answer to Van Vogt's story), "Swarm." A kid could get hooked on sf from this book. It's just that it doesn't quite match up with the advertising.

If the *Oxford Book* is open to criticism for a slanted agenda, I can imagine the howls of outrage that will come from some quarters about the *Norton Book*. In fact, the same people who may like Shippey's choices will be disappointed by Ursula K. Le Guin's and Brian Attebery's.

Le Guin and Attebery, a professor at Idaho State University (author of the intelligent book *Strategies of Fantasy*), with strong input by Karen Joy Fowler, select Damon Knight's "The Handler," from 1960 as the first of this anthology's 67 stories. That they should lead off with this Kafkaesque fantasy immediately reveals that their definition of science fiction is much broader than Shippey's. Later stories like Fritz Leiber's "The Winter Flies," Lewis Shiner's "The War at Home," Carol Emshwiller's "The Start of the End of it All" (which this book mistakenly

titles "The Start of the End of the World"), are all more fantasy than science fiction, in some cases more psychological studies than fantasies. Already we are in non-fabril territory.

In her broad ranging and intelligent introduction, Le Guin argues that science fiction is fiction deriving from or employing "assumptions basic to science, scientific technology, and scientism.... The content may be not scientific but scientific, when science and technology are presented as deity (or negatively as demon)." This definition has the virtue of cutting through all the false distinctions between "optimism" and "pessimism," between "New Wave" (she never uses the word) and "Old Wave" sf. By including "scientism" as well as science as the background against which sf is written, she broadens her definition greatly. Le Guin points out that much sf uses robots, spaceships, aliens, etc. as *icons* more than as productions of real science. This leads her to include as true sf such stories as Eleanor Arnason's "The Warlords of Saturn's Moons" that redeploy the furniture of the genre to examine issues such as feminism more than projecting scientific extrapolations or social speculations.

Le Guin admits to certain prejudices. She and her co-editors were

not receptive to racism and homophobia, and avoided stories they considered misogynist or overly violent. They sought as many women writers as possible (26 of the anthology's stories are by women). They tried to find first rate stories that were little anthologized or otherwise unfamiliar. And although they don't say so directly, on the evidence of their selections they lean toward political liberalism, which, given the strong strain of libertarianism and social darwinism in the genre, is going to leave some people out. The fiction they select resembles mainstream literary fiction more than do Shippey's selections, often presenting a satirical or parodic intent behind an sf mask.

Another of their theses is the postmodernism of contemporary sf. Postmodernism is difficult to define, but some of its earmarks are self-referentiality, the divorcing of imagery and motifs from their original frameworks, an awareness of how human identity and values are created by cultures, an interest in surfaces and simulacra, and the playing of intertextual games.

They start in 1960, maintaining that sf came of age around then. I don't think they needed to justify starting then, and by doing so on these grounds they slight the literarily

and politically sophisticated non-Campbellian sf in the fifties. Some of these '50s sf writers, like Blish, Knight, Dick, Sheckley, and Cordwainer Smith, get into the book anyway, others (like Bester and Budrys) don't. They also restrict the book to U.S. and Canadian writers, which leaves out a lot of good and influential work from the U.K. 'by Aldiss, Moorcock, Priest, M. John Harrison, Watson, Compton, Roberts, Ryman, Egan, Banks, Jones, and Ballard, among others.

As long as I'm griping, let me add my version of the standard complaints: if this were my book I would not have excluded the Brits. I would have included some longer stories, even at the cost of including fewer. I would have risked taking stories that might be familiar to genre readers knowing that they would be new to non-genre readers. Why is Marion Zimmer Bradley, a writer known for her novels, in here with a competent but uninspired story, when there's nothing by Thomas Disch, Jack Dann, Gardner Dozois or Lucius Shepard? Especially since Le Guin states one of her purposes was to redeem the 1970s, when Dann and Dozois made their first impact, and Disch published some of his best work?

While we're at it, why is James Schmitz in *both* the Oxford and

Norton books?

Despite all this, their broad definition, large number of selections, and the fact they're covering only thirty years enable Le Guin and Attiebery to include a more representative range of fiction than Shippey offers. They include hard science stories like Poul Anderson's "Kyrie," a love story between a woman and a sentient plasma creature whose tragic ending pivots on the time-dilating physics of black holes, and Fred Pohl's in-your-face assault "Day Million," a proto-cyberpunk hymn to accelerating social and technological change.

Oddly enough, the only story duplicated in The Oxford and Norton books, James Blish's "How Beautiful with Banners," highlights the differences between them. In it a woman scientist on Titan, wearing a quasi-living "virus suit" that protects her from the deadly environment, is attacked by a native life form, a "flying cloak" that attempts to mate with her suit. The story merges speculative exobiology with speculative technology to produce what at first appears to be a problem story in the classic Golden Age pattern: explorer on alien world confronted with deadly challenge based on scientific speculation. We think we're reading an idea story similar to classic *Astounding* tales like Hal Clement's "Fire-

proof" (1949), about a saboteur who fails to blow up a satellite because he doesn't realize a match won't burn in free fall where there's no gravity to produce air convection. But unlike Clement, Blish uses his situation to explore his scientist's character. "How Beautiful with Banners" is full of sexual imagery, alternations between the frozen Titan environment and the woman's memories that suggest her own emotional frigidity. Here is a story poised between the problem solving mode of the Campbell era and the characterization/metaphor mode of postmodern sf. I suspect that Shippey and Le Guin chose this story for different reasons, because in some sense they were not reading the same story.

In its post-1970s selections, the book undeniably moves toward the literary end of the sf spectrum. When Connie Willis brings in black holes in "Schwarzschild Radius," it's as a metaphor for the isolation and loss of human beings in war; when Eileen Gunn tells us of genetic engineering of middle-level executives in a corporate bureaucracy in "Stable Strategies for Middle Management," it's in the service of satirical comedy and can't be taken seriously as real science. But this is one of the major developments of sf since Blish's time.

Le Guin and Attiebery also in-

clude mainstreamers like Margaret Atwood and Diane Glancy, less well known writers like Molly Gloss, Candace Jane Dorsey, Sonya Dorman Hess, Michael G. Coney, Michael Blumlein and Phyllis Gotlieb. Like Shippey's anthology, for the sake of making an argument, this book gives a picture of sf an insider will recognize is skewed. Both books are missing things, but they're missing different things. In this case the slant shows sf as somewhat more feminist and liberal than it is.

Still, the size and range of the anthology produce an overwhelming cumulative effect. There are some great choices here: Cordwainer Smith's "Alpha Alpha Boulevard" tells us about a future so distant that disease and death are reinvented just for fun. Character, imagery and extrapolation fuse seamlessly in Samuel Delany's little known "High Weir," a modernist tale about the discovery of an ancient ruin on Mars and the accompanying descent of one of the expedition's scientists into madness. I'd prefer one of Gene Wolfe's longer works, but "Feather Tigers" is a neglected gem. Kim Stanley Robinson's "The Lucky Strike" is one of the most powerful alternate history stories ever written. John Crowley's "Snow" creates a delicate metaphor out of chaos and human loss. Michael

Blumlein coolly asks disturbing questions about male and female in "The Brains of Rats." James Patrick Kelly's "Rat" out-cyberpunks cyberpunk in a breathless velocity exercise. Bruce Sterling's "We See Things Differently" is one of his most ruthless challenges to cultural smugness, guaranteed to raise the hackles of all the red-blooded American college boys who are going to be assigned to read it. I questioned Candace Jane Dorsey's presence in this book, but her "(Learning About) Machine Sex" is a great story, fusing feminist perspectives on sexuality and computers with a hard cyberpunk ambience.

This is a first-rate anthology and despite its clear agenda the best conspectus of the contemporary sf short story ever assembled.

Gardner Dozois's *Modern Classics of Science Fiction* was originally published in England as *The Legend Book of Science Fiction*. In his introduction Dozois openly disavows all agendas: historical importance, representativeness, political correctness (gender, political stance, nationality, race, balance) as factors. "Instinct," he tells us, was his criterion. These are "the stories that got to me, that changed the way I thought, or what I believed, or how I felt, or the way I felt it."

Once more Damon Knight leads off, this time with his 1955 story "The Country of the Kind." By and large Dozois avoids well known stories, but is willing still to take often reprinted works like Gene Wolfe's "The Fifth Head of Cerberus." Like Le Guin, he has some non-sf (and only borderline fantasy) like Richard McKenna's "Casey Agonistes," R.A. Lafferty's "Narrow Valley," and Connie Willis's "Chance."

Unlike Shippey or Le Guin, Dozois makes no attempt to define sf in his introduction. He seems to be aiming this book more at the sf audience, so perhaps he expects them to be familiar with the field. But unspoken definitions are still definitions, and a look at the stories Dozois selects leads me to a few deductions. Dozois's science fiction often has little to do with technology. More important than the scientific background is strong emotional, sometimes melodramatic content. Sf is not an idea fiction as much as an emotion fiction. It presents distant and romantic venues, exotic or extreme backgrounds. Strangeness. Isolation and loss. And it is primarily character centered.

As an example of this slant, instead of taking one of Ursula Le Guin's many true sf stories, Dozois selects "The Barrow," an excellent story,

but one that has nothing to do with science fiction and that does not have to be read even as fantasy. Instead of one of Bruce Sterling's more characteristic cyberpunk stories, he reprints "Dori Bangs," perhaps the least idea oriented and most humane of his works. For Dozois, story is more important than science.

Overall this is an excellent selection. If it feels, to a long time sf reader, like it's more representative than the Oxford and Norton books, that may be because Dozois, through his best of the year anthologies and his editing *Asimov's Science Fiction*, has shaped our perceptions of sf over the last 20 years. There are some unassailable choices here: Gene Wolfe's breakthrough novella "The Fifth Head of Cerberus," which took the top of my head off and stirred my brains around the first time I read it. "The Lady Margaret," Keith Roberts's tragic love story set in an alternate world where England remained Catholic. Joanna Russ's little known but brilliant, sad, "Nobody's Home." Going down with the *Titanic* is the formula for the perfect vacation in Jack Dann's wry, lethally cynical "Going Under." Here's the story that made everyone notice Lucius Shepard's politically astute and tropically ornate work for the first time, "Salvador." Two of the '50s' masters

are here with two of their most disturbing stories: Damon Knight's "The Country of the Kind," offers one of the most elegantly despairing endings ever to grace an sf story, and Theodore Sturgeon's creepy "The Other Celia" gives us a voyeur who sees more than he bargains for.

As I was writing this essay I received proofs of a new companion volume, *Modern Classic Short Novels of Science Fiction*. It's a worthy follower to the earlier collection, containing 13 novellas, among them Jack Vance's "The Miracle Workers," Samuel Delany's "The Star Pit," Joanna Russ's "Souls," and James Patrick Kelly's "Mr. Boy."

If Shippey holds down the right, LeGuin & Attebery the left, then Dozois gives us the middle. But the middle has moved left over the last thirty years. Sf is more literary and less techie than it was in 1960.

Some surprises: Disch only appears in the Oxford book, of the three the one I would have *least* expected him to be in, and that with an early draft of "Problems of Creativeness," which he revised into the much superior version that appeared in his novel 334. Shepard and Dann are included only in the Dozois anthology. Harlan Ellison, Kate Wilhelm, Robert Silverberg, Kim Stanley

Robinson and Karen Joy Fowler are only in the Norton book. Dozois is in none.

An interesting exercise is to assemble a list of the writers who appear in all three of these books. Given the various agendas and limitations (no British writers can be on this list), the results are pretty interesting. Which American writers do these anthologists agree are absolutely essential to understanding sf since 1960? They are Cordwainer Smith, Gene Wolfe, Ursula Le Guin, James Tiptree, Jr., William Gibson and Bruce Sterling.

If you want an argument that the center of the field has moved left (or that leftists get to do big anthologies), there it is. Some of these writers are strong stylists: Smith, Wolfe, Gibson. Some are strong feminists. And the closest we get to a hard science writer is Sterling, a man whose work has never appeared in *Analog*.

On the other hand, for those who fear that sf is losing its idea content, I'd point out that there is a certain hardness to the way all of these writers think. They're not fuzzy-minded fantasists. In the broadest sense, these are *political* writers. Look at "How the Whip Came Back," or "The Screwfly Solution," or "The Women Men Don't See" or "The New Atlantis," or "We See Things

Differently" for hard truths brilliantly told. Even the "artier" writers like Smith, Wolfe and Gibson are hardly unaware of the political implications of the worlds they create.

In this sense a tradition goes on: going back to Wells, sf has always had a strong political content. In fact the debates that are undoubtedly going to follow the Norton and Oxford books will only demonstrate further how political we all are, and how the choice of excellence is a reflection of our political outlooks.

I imagine the poor teacher or reader who has little acquaintance with contemporary sf, and what he or she will make of this cacophony. Either he will be confused, or hopefully, will see that sf is much bigger than he imagined, covering a broad spectrum from the hardware story generated by scientific speculation, to the story that uses sf purely as a metaphor, to the surrealist fantasy that has nothing to do with science.

All these things are "science fiction" today. We don't have a single conceptual backbone anymore, but that's because the territory has expanded so much that it's harder to fashion a consensus. Some see this as a problem, but I find it hard to regret

that any of these stories were published as sf. We have lots of good writing. And we have tons of meretricious crap, media generated and oriented fodder, sharecropped sequels to books by dead writers whose corpses are being used as brand names, endless fantasy quest series, endless militaristic wet dreams. All this — 99 percent of the genre — is not represented in any of these books.

Thank god. Any library should have all of these anthologies. Any sf reader, novice or veteran, will find lots to like here. It may not be as coherent a view as I got in 1960, but sf is not as coherent a field. It's not as coherent a world. But I can imagine a ten-year-old using these books the way I used Healy & McComas in 1960, building an imaginative universe on them.

NOTE: For those of you who are on the Internet, I have a mailbox to which you can post comments on books, writers, or these reviews. I can't promise that I'll always respond, but I do read my mail regularly and I'd be interested in hearing what you have to say. My address is tenshi@unity.ncsu.edu





BOOKS TO LOOK FOR

CHARLES DE LINT

CHASING SHADOWS

Before we get to the matter at hand and start to discuss some books, I thought I should offer up a brief apology in regards as to what I hope to accomplish with this column.

I prefer to talk about books I like. The reason for this is simple: If a book isn't working for me, I'd just as soon put it aside and start something else, rather than wade through a bad book simply for the sake of giving it a review. I *will* point out what I believe to be flaws in an otherwise worthy work, but I don't want to waste either your time or my own with excessively negative reviews. There are simply too many good books being published that we *can* talk about, and little enough inches of column space in which to do so as it is.

The tone will be more conversational than academic — as if we were simply getting together to talk about a few books in a bar or a café. So while I will warn you away from the odd

clunker — as we would do for each other in such conversation — mostly we'll be talking about what works, and why it does.

What do I look for when I'm reading? Any number of elements combine to make a book effective for me, from superior characterization and plotting to the author's style, but mostly I'm searching through the shadows and lies for the gleam of truth — a resonance, beyond the basic verisimilitude, that gives me a momentary understanding of the secrets sparking the lives of the other men and women with whom I share this planet. A brief glimpse into the heart of Mystery, if you will.

Surface entertainment, diverting as it can be, simply isn't enough. And it's certainly not satisfying as a steady diet. Books that do no more than make us laugh, unravel a murder mystery, pretend to show us the past or future, evoke the trials of a suburban housewife or some Rambo assault on an impregnable fortress...they're all entertaining on

one level or another, but without the above-mentioned resonance, they're consumed and quickly forgotten.

Good fiction needs heart; it needs a kernel of truth in amongst all the shadows and lies. The best fiction teaches us something we never knew before at the same time as it diverts us. It illuminates our own lives and the world in which we live while allowing us to vicariously undergo the experiences of strangers and visit worlds we might never otherwise know.

With that in mind, consider this column as a kind of roadmap that will point out some of the good and bad hunting grounds for such experiences. We won't be concentrating solely on new books here, nor on titles that are always specifically genre, but I'll promise you this much: If I don't think it will interest you, I won't write about it.

And please remember: this column is only opinion — and no more than one person's at that. What's written here isn't inscribed in stone or precious metal. But I hope that it won't all seem like so much fairy gold either.

The Hollowing by Robert Holdstock, HarperCollins U.K., 1993, £15.99.

Robert Holdstock first introduced us to his mythagos ("images of myth") in his novel *Mythago Wood* (1984) which went on in the year following its publication to share the 1985 World Fantasy Award for Best Novel with Barry Hughart's *Bridge of Birds*. Holdstock's novel was a *tour de force*, well worthy of the attention it received — as much for the quality of the author's prose as for how he took the poor tattered garments of Teutonic and Celtic myth cycles and breathed new life into their over-used fabric.

The forest of the book's title was Ryhope Wood — a remnant of ancient post-Ice Age British forest that has a far greater acreage than its outer borders would appear to allow. Some aspects of the forest, combined with human racial subconsciousness, peoples the woods with beings and places of myth. These mythagos take the shape of familiar figures — the questing knight, Jack-in-the-Wood, the Chapel Perilous and the like — while others originate so far back in time that they are familiar only as archetypes, remembered subconsciously until they are given life within the borders of Ryhope Wood.

Since the original appearance of *Mythago Wood*, Holdstock has produced a number of sequels: *Lavondyss* (1988), the novella "The Bone For-

est" which appeared in a collection of the same name (1991), and now *The Hollowing*.

Many authors "return to the well" because of a lack of fresh ideas and succeed only in diluting the power of the initial work, but that hasn't proved to be the case with this particular series. While each book involves characters unfamiliar with mythagos entering the wood, their reasons for doing so are varied enough to put a new spin on the proceedings. And because the motives of the characters vary so much, each new venture allows Holdstock to explore a different aspect of how myth resonates with the modern human psyche.

In *The Hollowing*, Richard Bradley, who lives near the edge of Ryhope Wood, is forced to enter to search for his son Alex. The highly imaginative Alex was left brain-damaged after a previous encounter with the wood's mythagos and subsequently disappeared from his home one night. A few months later a boy's body, presumably Alex's, was recovered at the edge of the forest.

When Richard comes to understand that his son might still be alive in the wood, he goes in after him. Once inside the forest he discovers not only traces of his son, but encounters a group of scientists explor-

ing the wood with mixed success. They all have their own reasons for being there: Their leader is searching for George Huxley, the man who first began to map the forest in the 1930s and subsequently disappeared in its depths. There is a Breton, searching for his wife, lost in a similar tract of forest in his native Brittany. There is a Native American trying to force a confrontation with the Trickster Coyote who has haunted her family for generations with a curse.

The result is all these disparate quests entwine to form a brilliant transplanting of the power of South American magical realism onto the mythological matter of Holdstock's native England. The forest and many of its mythagos may be unfamiliar to us, but with Holdstock's guidance we begin to recognize through them the hidden meaning that underlies our own world, appreciating as we do so both the perils and wonders of such exploration. In the end we come to understand exactly how much the resonance of the mythic past continues to influence the present.

Not a bad parlor trick for a book that some might consider simply one more installment of an ongoing series.

The Hedge, the Ribbon, by Carol Orlock, Broken Moon Press, 1993, \$13.95.

While Holdstock uses mythic matter as a way of placing the emotive qualities of his characters' interior landscapes directly onto the stage, Carol Orlock makes many of the same points with a much more subtle use of how the preternatural affects the cast of her novel. Briefly put: Our lives are not one story. Who we are is not how we enact a role in that story, but rather we are each of us a set of stories that resonate and gain depth as each new story is added to the set. Some are our own, some belong to those whose lives touch upon ours, but they all help to define us.

As with many books published in the mainstream, *The Hedge, the Ribbon* has been given the subtitle "A Novel," a point that some might quibble with after reading the first few chapters. It quickly becomes obvious that Orlock is using the traditional framework of stories-within-a-story. By the fourth chapter, however, one realizes that the connections between the stories themselves are part of a larger tale and by the end of the book we see that all of it, including the framing device of the storyteller relating each chapter, are in fact a set of stories specifically

relating to one life, that of Angela Mona Zoey Maxwell, the young girl introduced in the first chapter who successfully convinces her neighbors that if they believe it will snow, it will.

The Hedge, the Ribbon turns out to be a novel after all, and one far less episodic than one would suppose at first. The stories of Angela's family, friends, and neighbors take us from when Angela is a child through her old age, and it's to Orlock's credit that each works as a separate story as well as serving as chapters for her novel.

What's also fascinating is how Orlock tells her stories. The magical elements, from Angela's daughter creating a life-size replica town that exactly mirrors the one in which they live to various encounters with ghosts and the like, are handled in a very matter-of-fact fashion. It's in the mundane day-to-day aspects of her characters' lives that she evokes the sort of wonder that one might expect to have been reserved for the more magical elements.

The result is a novel that feels very firmly rooted in reality, but that celebrates the quirkiness and oddities that make up all of our lives. The enchantment that arises comes not from a preternatural source, but from the fact that we are all made up of sets

of stories that we can share with each other. We are all enchanted. And enchanting.

As is Orlock's *The Hedge*, the *Ribbon*, and *Angela*, the wonderful character we meet in its pages.

Turtle Moon, by Alice Hoffman, Putnam, 1992; \$21.95. Berkley, \$5.99.

Alice Hoffman's forte is delving under the bland mask of suburban tranquility to ferret out the dark secrets that lie behind the trimmed lawns and hedges, the bungalows and condos. She did so with a gentle touch reminiscent of Anne Tyler in her last novel, *Seventh Heaven* (1990) set in the 1950s when suburbia was considered to be the promised land. This time out, the knife cuts a little deeper as Hoffman combines the sensibility of her earlier novels with the suspense of a crime novel.

Turtle Moon is set in a small Florida town made up mostly of divorcees and retirees. The cast is a rich blend of child/adult relationships: between divorcee Lucy Rosen and her estranged son Keith who has all the makings of a juvenile delinquent; between policeman Julian Cash, taciturn and only at ease with his dogs, and Miss Giles, the woman who raised him when he was orphaned; and between Cash and Keith, a rela-

tionship that seems to owe as much to Cash's guilt over the death of his cousin Bobby as it does Keith's needs.

The novel is kick-started with the murder of one of Lucy Rosen's neighbors. Her son Keith hears the woman being killed and flees with the victim's infant daughter; and that sets off the hunt. The killer wants to eliminate Keith, the witness. Cash wants Keith, who looks good for the woman's murder. Rosen sets off to track down the real killer to clear her son's name.

Hoffman manages to both retain her lyrical prose style, yet keep the tension high as befits a suspense novel. Her characters are beautifully constructed, flaws and all, as are the settings, especially Verity, Florida. And as in her previous book, *Seventh Heaven*, there's a light touch of a fantasy element to underlie a deeper resonance to all the goings-on.

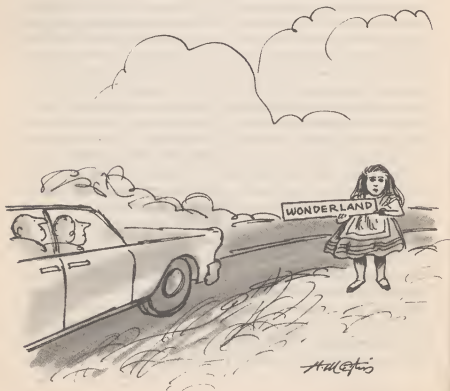
Hoffman's take on fantasy isn't likely to appeal to the reader eagerly anticipating princesses being rescued from evil wizards by a talking unicorn. It owes more to magical realism, adding a deeper insight into the human condition, rather than serving as a flashy plot device. There is a warmth and a genuine sense of wonder to the mystical relationship that forms between Keith and Cash's monstrous dog Arrow, an animal so

vicious that Cash himself can't pet it. A similar sureness of the author's hand illuminates the presence of the ghost of Bobby Cash, bound to the gumbo-limbo tree where he died twenty years ago in a car crash, the vehicle driven by his cousin Julian.

Turtle Moon has a little of everything for everyone: lyric prose and action scenes, suspense and romance, social commentary and an attempt to understand human motivations

and relationships in literate terms. That Hoffman can juggle all these disparate elements and fit them into a seamless whole begins as a testament to her skill as a writer and ends with her readers' great delight.

Books to be considered for review in this column should be sent to Charles de Lint, P.O. Box 9480, Ottawa, Ontario, Canada K1G 3V2.



"Clinging to a Thread" is the first of several stories we have on hand from Leslie What. Leslie's fiction has appeared in Asimov's Science Fiction Magazine, and regional publications. She is a stringer for the Eugene Weekly, and is currently writing a comic novel.

Leslie is the child of a Holocaust survivor. "I started this story two years ago," she writes, "after looking through a box of linen tablecloths, sheets and pillowcases brought over from Germany after the War. As I touched the fabric I was overwhelmed with the symbolism of having touched something used by people I knew only from photographs. I really did feel the physical presence of someone from the past."

Clinging to a Thread

By Leslie What

I SEE THE CHILD AS CLEARLY as if she were directly before me. Clinging to a gray stuffed dog, she looks around, lost. She is six — seven at most, with fine black hair that crops her porcelain face like a heart-shaped frame. Her pale coloring contrasts starkly to her hair and I begin to think my dream is black and white when I notice the piercing blue of her eyes.

The air is gray, redolent with ash. The child peers inside an abandoned storefront, then picks a pebble off the windowsill to stuff into her mouth. She sees me and starts forward, but stops as if a wall has blocked her way.

"Who are you?" I ask. "What is your name?"

"Such questions of a ghost," she says. Her voice echoes off the empty street and into the chill night air. I realize then that I exist somewhere else outside this dream, and that if I am not careful to stay calm, I will waken. This worries me, for I am not ready to leave the girl who stands just beyond me. She is shivering. As I huddle inside the thick wool comforter from my bed, I wonder why the child has no coat?



Sarah stopped by on her way to visit Mother at the hospital. "I'll be along later," I said, not yet ready to get dressed. When my sister asked if I were getting enough sleep, I lied. I was just tired from working, I said, hating myself for pushing away Sarah's concern as if she were only offering me a second cup of coffee.

Sarah left, and I spent the next hour squinting into a mirror, where I noticed for the first time the cold cream pallor and the deep shadows under my eyes that had so worried my sister. I touched my face with my fingertips, to reassure myself that the wan reflection staring back was really mine. For the first time in years, I put on powdered rouge, smudged the color under the hollow of my cheek, then feathered it upward until the line between artifact and reality was blurred. I did not bother to do anything with my hair. It had tired to a limp brown that would not hold its shape, no matter what. Though I did not feel up to going, in the end I left for the hospital to visit my mother, Ruth.

The dreams had been keeping me on the edge of wakefulness since the night Ruth dropped off the box filled with linens. That had been six months ago, long before Ruth's first stroke.

"I want you to have these," Ruth had said. She was not feeling well at the time, her breathing still labored from a recent bout of pneumonia. She was starting to look older, her hair thinned, a dull color that could no longer be considered silver. Her back was hunched and her hands clutched the arms of the chair so she could sit upright.

If Ruth were older, what did that make me, I wondered? My mother still looked on me as a child, but I was now past forty, with a child — a son named David — of my own. Funny, that I could not remember her any younger than I was at that very moment. In fact, I was certain she had never been a child; she could not have had the time. I was born to her only five years after her liberation from a concentration camp in Latvia. She was nineteen by the end of the War, already an old woman.

We do not get along well. Ruth does not like my husband, Jerry, and when David was born, her attitude grew even colder. She never wanted to hold the boy, never offered to watch him, or take him out to show off to her friends. It has been a source of conflict between us. I covered for her once and bought David a present when she forgot his birthday. I did this to keep peace

within the family. We are such a small family — just me, Ruth, Sarah, and now David — that it's important we maintain our ties, no matter what.

But it is often difficult to be around my mother, and that night, I could not wait for Ruth to leave. She stayed on and on, despite my subtle hints that I had other things to do.

"If something happened to me, if there was a fire or a robbery," Ruth said quietly, "I couldn't bear to lose what little I was able to save." She handed me the cardboard box and I lifted open the flaps to look inside.

"Linen," I said, unimpressed at first. "Thank you." At the top was a yellowed pillowcase with a butterfly and floral pattern finely stitched in silk thread. The fabric was cold from being stored in Ruth's unheated basement. "Who did this belong to?" I asked, curious.

"It was my sister's," Ruth said, and her voice broke. She looked down at her lap and smoothed the wrinkles from her skirt. "All these things belonged to my family before the War. They are yours to keep now." At that, she stood to leave. "This is all I have to remember. I leave it to you to divide with Sarah, when you're ready. Please, take good care of these things for me."

When she had gone, I pulled the box into my bedroom where I sat on the floor and stared at it, no longer curious, but afraid. Twice I reached to explore it; twice I let my hands fall to my side. Finally, I managed to have a look inside, and like a kid pawing through a treasure chest, I pulled out the bedding and tablecloths into a pile around me. I sat, surrounded by fine linens and cottons with a sweet, musty smell woven through the fibers alongside the weft. The pillowcase caught my attention once more, and I brought it close enough to caress with my cheek, marveling at the fabric and how soft it felt against my skin.

I was named Lena, after Ruth's little sister, who was killed at the age of five. I saw her picture once, when I went into my parents' room after a bad dream. Ruth stood beside the dresser, talking aloud in her sing-song voice that I knew was her other language. I crept behind her and saw the silver framed picture of a little girl. When she noticed me, Ruth snatched the picture away to hide inside her drawer.

To me, Lena was little more than that one photograph — a statue the size of a doll, with a Dutch boy haircut, and very dark eyes. But then, with the cold pillowcase resting against my cheek, I could only think of how Lena's face had once pressed against the fabric. I closed my eyes and drifted to a state of near

sleep when something jerked me back, tugged at my sleeve. I opened my eyes to the dimly lit room and saw a little girl watching me from the underside of the pillowcase. Her face, a mirror-image. Lena.

I grew chilled, as if a hole had opened to my world and allowed something cold to fall through. To warm myself, I pulled a tablecloth from the box and wrapped it around my shoulders. I pictured myself sitting cross-legged like a guru and laughed, but then another image came to mind, one of Jews wrapped up in prayer shawls. It was something I had not seen very often, as I had only attended a Synagogue once, after my father's death.

"What is the point of believing in God?" Ruth used to ask. "What good did it do me?" It was a question I could not answer.

I wrapped myself tighter inside the yellowed sheet, but it soon felt like a shroud. Rocking forward and back, I murmured a prayer for the dead, that I did not think I knew. "Yis-gadol v'yis-kadash sh'mey raba..." A thread from the sheet caught against a button on my shirt and started to unravel. Without knowing why, I brought the thread to my lips for a kiss.

MOST DAYS I awakened late with my stomach boiling, my mind stuffed full of cotton that kept me from remembering what I was to accomplish. The dreams always left me feeling disturbed, unsettled, and I cowered under the covers until I was ready to shower and let the water shock me into daylight.

Last week, I went to an estate sale where I saw people gathered like vultures. They clutched knickknacks, (chachkes, as my mother called those things that serve no purpose other than to gather dust) as if they were guarding gold treasures.

I have never understood the value people place on antiques. Unless they come from family, they seem worthless — old wood with someone else's memories in the drawers. Yet this sale drew me to it. I opened the door to the estate sale, and stood on the threshold, where I wavered, afraid of falling into another world.

The next thing I knew, I was in a hallway packed full of people, and crushed against the wall by a stranger whose face I could not see. Panic washed through me as I struggled to catch my breath. Shoulders pushed me, elbows pressed into my neck, a cold hand touched my arm. All I could think of was how it must have felt to be buried alive, to be trapped inside a mass

grave alongside the dead and the doomed. I grew frightened enough to kick the elderly man in front of me.

"I'm terribly sorry," he said, kindly. "I did not mean to push you."

I made my way back toward the bedrooms where I found some Condensed Books, a large plastic bag filled with old stockings, photograph albums and cheap vacation souvenirs from every National Park in America. Nothing there that anyone could want, I thought, which made me sad. What if this were my mother's house? What if strangers pawed through Ruth's belongings, sizing up her underwear, arguing over whether a lifetime's memories were worth a dollar or just fifty cents? Without thinking, I took the bag of stockings and bought them for ten dollars. I left the house feeling foolish for having spent good money on such garbage; I had yet to do my shopping, and now had only a few dollars left. I went to the grocery and bought what I could — a carrot, an onion, celery, and a day-old loaf of bread.

I was exhausted by the time I returned home, though I knew I had done nothing to deserve such fatigue. I could not stop yawning as I measured out a pot of coffee. I buried the stockings in the back yard, then chopped vegetables to start the soup, but weariness soon overcame me. Telling myself it was just for a minute, until the coffee brewed, I sat on the couch and fell asleep.

I see a soldier cloaked inside a dark brown haze. He watches the girl at play with her toy dog. His eyes open wide. "I'll have that," he says, and laughs as the child cries when he takes her toy.

"The dead do not need playthings," the soldier says. "My daughter will use this better."

I follow him into haze. When I come out on the other side, I am in the next day. I look around until I spot the limp gray dog lying in a rubbish bin. Its stuffing is torn out, and a button eye dangles from the painted socket.

"I don't want it," someone screams from inside a house. "It smells like a Jew."

I pick up the stuffing and fabric, and run backward through my dream to find the child. I am desperate to give her something, anything, but though I hold what remains of her childhood, the girl is now nowhere to be found.

I opened my eyes and got up to check the coffee. It was bitter and needed

nearly a quarter cup of milk to lighten it to my taste. The pot had bubbled over on the stove. The soup was dark — the vegetables cooked to pulp. Still, when we sat down for dinner, I was consumed with such a hunger that I felt as if I had not eaten in a week. I picked up the bowl, and downed the soup in several gulps. And then, feeling possessed, I licked the bowl clean.

David began to laugh. "Look at Mommy! She's so silly."

The telephone rang and I stood to answer it. Sarah was on the other end.

"Come quickly. Right away," she said. "Mother has had another stroke."

Ruth had been moved to a different room. I was directed to the end of a long hallway. Nervous, I walked quickly, and pretended not to notice the old man who clutched the rail along the wall and asked for help as I passed him.

Sarah was crying. I held out the basket I had hastily prepared, and she took an apple without paying me the least bit of attention. Then I looked at my mother, shocked to see her propped up in a chair, her hair dirty, something white around her mouth.

"I brought fruit," I said, because I could not think of anything else.

"Is that you, Lena? Come closer, so I can see you." She motioned for me to sit beside her on the bed, but the room smelled strongly of urine or worse, and I could not bring myself to touch anything in it, including Ruth.

"Come here, little sister," she said then, and I backed away.

"I can't stay," I said, and made myself cough. "I have a bad cold. You might get sick. I'll come back another time. Enjoy the fruit."

I left the basket with Sarah, then turned to rush out of the room.

She walks toward a bus, in line alongside many faceless children. If she's on her way to school, why have the windows been blackened?

"You must find out what has happened to my little brother, Karl. I cannot rest until I find him. My sister will know," she says, facing me. "Ask Ruth, won't you, please?"

The guard in front of the bus kicks the children between their legs to hurry them inside. She is next in line, and my heart speeds up as I watch her approach the doorway.

She carries something — a scrap of cloth, and when another guard shoves her forward, she drops it. She turns to pick it up, but the guard kicks her, and

she screams.

"Stop," I call. "Don't hurt her." The child stares at me with dull gray eyes. It is only then that I know with certainty she is already dead. "I want to help you. Please. What should I do?"

"Just don't forget me," she says quietly, before stepping up to the bus. For a moment, I think I see her face pressed against a blackened window, but it vanishes like a penny sinking to the bottom of a fountain.

I walk to where the cloth lies on the ground. It is a handkerchief with butterflies and flowers that match those on my pillowcase. A single thread has been pulled out, leaving a shadowy line across the fabric.

I clutch the handkerchief and feel something tugging, pulling against the missing string. It is the child, who is tied to me by threads I cannot see. I hold the fabric tight, refusing to let go, terrified the child will fall away. This child is my aunt, my mother's sister. I want desperately to cling to her. But as the bus pulls away, the thread breaks, and I watch helpless, as the bus disappears inside of haze.

The sheets were cold, drenched in sweat. I pulled on my robe before hurrying out of my room. I could not shake the image of the child from my mind. Even with my eyes closed, I saw her face, an afterimage scratched in the periphery of my vision. I had come to depend on seeing her in my dreams. I did not expect to see her again.

Ruth had asked that I go to her house to pick up a few things she needed. She was transferring to a nursing home. After she was stable, she would come stay with me — until she felt well enough to go home.

I took out her old gray coat from the closet. It smelled badly, like wet dogs. Father had given it to her many years ago and Ruth had steadfastly refused to get rid of it. A thick gray string hung loose off the collar. When I pulled it free, the fabric began to unravel, and I had to look for a needle and thread with which to repair the hole.

I sat on her bed to sew. What I knew of the War was limited to what my mother had told me. She talked often about the cold, how she was always cold, always hungry. She was allowed to keep only a lightweight coat that was much too small for her. It was her job to undress the dead and sort their clothing for the Germans to re-use. Sometimes, their flesh was still frozen to the fabric. Rarely, she found money in the pockets. She had saved what

small fabric scraps she could hide to sew into the lining of her coat and make it warmer. Into this, she made secret pockets, where she hid money, bread — anything she found that could be traded or used.

When I left Ruth's house, I was so chilled that my teeth began to chatter. I put on her scruffy coat, and thrust my hands deep inside the pockets to warm them. There was a small hole in the right pocket. I worked it bigger with my finger until I could push all of my hand through into the lining of the coat. There, I felt something cold and flat — a packet that I pulled out to examine.

It was Lena's yellowed handkerchief. Inside were three photographs. One of Lena holding her toy dog — the picture I remembered from my childhood. Another of Ruth as a twelve-year-old, gripping Lena's hand. The third was of the two girls, standing next to a little boy who was several years younger than Lena. The boy held an embroidered pillow tightly across his chest. I recognized the fabric. It matched the handkerchief.

I hurried to the hospital. When I had reached Ruth's room, I ran toward her. She was sitting up in bed, staring at the television.

"Mother," I said, and kneeled by the bed. "I have to talk to you." There was no gentle way to begin it. "Did you have a little brother... a boy named Karl, who you never told me about?"

She began to tremble, and I dropped my head into her lap and hugged her around the midriff. She patted my hair, as she had done when I was tiny. "A brother," she said, quietly. Suddenly, a low sigh rushed out from somewhere deep inside her. "Oh my God," she said. "Oh God, yes. My brother, but I can't remember what he looked like."

"Was this him?" I asked, and showed her the picture. "What happened to him? Tell me, Mother."

She could barely speak. "Karl," she whispered. "My baby brother."

"What happened?" I persisted.

Her words, when at last they came, were not directed toward me. "After Karl was born, my mother was so busy caring for him that she hardly had time left for me." She still caressed my hair, then stopped, as if seeing for the first time that I was in the room with her.

"What happened?" I pressed again, angry she had forgotten her brother as she would later forget my son.

"They came for us, and we hid. I was behind an open door, and Lena crouched below the wood bin. My mother held Karl inside a closet that was

hidden by a large bookcase. The Germans searched the room. 'Juden, Raus' — Jews come out, they said. Karl began to whimper, and the Germans knew to look behind the bookcase. I watched them pull my mother out by the hair. They did not see me. Then my beloved Lena gave herself up to be with my mother. I never saw them again after that."

She began to weep. I held her, not wanting to let go or even change my position, though my legs began to cramp.

"I had wanted him dead so many times," she said in a whisper, "but once it happened, I asked God to take me instead. Even that small favor was not granted to me."

I held Ruth until my arms trembled from holding on so tight. I gave my mother the handkerchief. "This was Karl's," I said, certain that was true. "All he wanted was to be remembered. You can give him that." I believed this fervently, and my mother believed it too, for she immediately relaxed, as if she had let go of something heavy.

I sat on the floor and gripped the fabric of my mother's robe, clinging to it with a fierceness I had never known. I knew that if I lost my hold on Mother, I might sever the only thread still connecting me to the past.

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Pati Nagle is a New Mexico writer with a lifelong interest in local traditions. She is a musician, bridge enthusiast, and amateur philosopher. She uses a Santa Fe tradition — the burning of Zozobra — in "Coyote Ugly." This is her first appearance in print.

Coyote Ugly

By Pati Nagle

EVASCUFFED HER FEET ON THE polished brick of Lincoln Avenue as she crossed the plaza. She walked ungracefully, stumping along, her new

carving tucked carefully in her arms. She passed the galleries and boutiques without glancing in the windows. Their contents — designer fashions, bizarre "art," and the inescapable coyotes; bandana-adorned caricatures in pastel blues, pinks, and greens — were no part of her Santa Fe.

She paused to watch the workers setting up a bandstand for tomorrow night. It sent her back to Fiestas years ago, driving out from the pueblo to picnic on the hood of the pickup in Fort Marcy Park, with mariachis playing and kids and dogs rolling in the dirt. She remembered playing with the wind when her mother wasn't looking, weaving twists of air into dust devils — miniature cyclones of stinging sand. Sometimes, when her older brother Joe had been pushing her, she would send a dust devil to plague him. She would laugh while he spat dust and rubbed his eyes, and Grandfather would laugh with her. Grandfather was the only one who didn't scold her for her wind

tricks. Mother, if she noticed, would silence them both with a fierce glare. But on that one night of the year, even Mother could not frighten Eva.

Fiesta marked the end of summer and always began with the burning of Zozobra — Old Man Gloom — a puppet effigy, everyone's symbol for their worst troubles. When the flames rose around his giant paper head and his eyes began to glow with green fire, everyone felt the magic of that purge. Eva remembered softly chanting, "No more trouble, no more fear, no more for another year," while Grandfather's warm arms and an old wool blanket kept out the sharp wind. She wouldn't dream of imagining her mother as Zozobra, but she let the hurt of being scolded burn away in the fireworks.

That was a long time ago. Fiesta was different now; everything was different.

Eva walked slowly past the Palace of the Governors, where she'd sat under the portico helping Grandfather sell his carvings on many a lazy, dusty afternoon. Kachinas, carved the old Hopi way (the Hopi were Grandfather's people) from a single cottonwood root, and painted in the summer colors or the winter colors by Grandfather with Eva helping. Now the kachinas were intricate meaningless sculptures that sold for thousands of dollars in hushed carpeted galleries.

Eva stopped at the corner where Grandfather had liked to sit, back in the shade behind the half-wall at the eastern end of the portico. Back then the plaza smelled of sunshine on dry dirt, cottonwood breezes, and the warm leather whiff of La Fonda on the corner, where Eva would run to fetch a lemonade with the shiny nickel Grandfather gave her. Now it was all French restaurants and the fancy perfumes of rich patrons and sightseers. You even had to have a permit, certifying you were a "Native American," to sell under the portico.

She turned her eyes away from the silent hawk-faces of the traders in the shadows and clutched her little package tighter, walking head down, away from the plaza. The *turistas* in their bright holiday clothes gave her a wide berth. Indians were for staring at, not for talking to. No one wanted to say hello to an ugly Tewa girl walking down Palace Avenue.

She wound her way through the streets to an old adobe house, trim newly painted bright turquoise, that bore a copper plaque inscribed "Alamosa Gallery." Eva stepped inside and stood blinking after the bright sunlight.

A young woman looked up from the antique desk. Pretty, blonde, slim.

She could be a model. She could be on TV. Eva clutched her package tighter. Inside it was the only beauty she had.

One bag ugly — you go to bed, you put a bag over her head.

"Can I help you?"

Eva stepped forward. "I'm here to see Mrs. Rougier." Her tongue stumbled over the foreign word.

"Do you have an appointment?"

"She knows I'm coming," said Eva, fighting the cringe inside her. "I said I would come today."

"I see. Well, let me tell her you're here. What's your name?"

"Eva Trujillo," said Eva, struggling to keep her voice above a whisper.

The pretty girl's heels rapped hollowly on the wooden floor as she left the room. Eva was alone again, staring at sculpture and paintings illuminated by track lighting hung from the ceiling's ancient *vigas*. She wandered down the room, gazing briefly at pieces that stirred nothing in her. Cowboy bronzes, static pot-and-squash still-lives, views of Chimayo in every kind of weather. Time-worn images that were sure to please the tourists, interspersed with cactus collages in neon hues and other new "Southwestern" art. Even the Gorman, occupying a place of honor above the mantel, held little meaning for her. The shapeless woman, huddled in her blanket, only reminded Eva of how the world saw her. She shivered.

Two bag ugly — you put a bag over her head and one over yours in case hers slips.

"Here she is!"

Eva turned as she heard the footsteps coming down the hall. Mrs. Rougier and another woman had followed the pretty girl back. "Hello, Eva," said Mrs. Rougier, holding out a perfectly manicured hand. "I'm so glad you came in today! This is Ms. Messersmith, one of our best customers."

"Hello," said Eva, shaking Ms. Messersmith's hand in her own cold one. The woman wore a heavy squash-blossom necklace over her black silk blouse. Her face was sharp and she didn't smile. She avoided looking at Eva after the first glance, turning back to Mrs. Rougier.

"Eva is a very promising new artist," smiled Mrs. Rougier. Large silver earrings flashed out through her auburn hair. "Let's see what you've brought, shall we?" She led them over to the desk, where Eva unwrapped her carving.

It was a fawn. A beautiful baby, lifting innocent eyes to a new world. Eva

had let the wood's own dappling form its markings, brought the whorls to life in shaping muscle. She smiled softly at it, looking up from its nest of paper.

"Very pretty." Ms. Messersmith sounded bored.

"Why, yes, Eva, it's lovely," said Mrs. Rougier.

Eva looked from one woman to the other, her heart sinking. "You don't like it."

"No, it's very good," said Mrs. Rougier, with a glance at her client. "It's just not the style Ms. Messersmith is looking for. We'll show it, of course. Heather, make out a consignment slip for it."

The pretty girl nodded and placed a form in her typewriter. Eva resisted the impulse to snatch up the carving again.

"Ms. Messersmith is looking for a piece for her foyer — "

"Something that reflects the desert — savage, stark. My home is designed to capture that feeling."

Eva nodded. She could imagine Ms. Messersmith's home; had seen pictures of such homes in magazines. All angles and skylights, with freestanding adobe walls inside, built only to display expensive interpretations of the desert's starkness.

"Perhaps you're working on something along that line? We could stop by your studio and see?" said Mrs. Rougier.

A glimmer of interest appeared in Ms. Messersmith's eyes. Eva opened her mouth to refuse, but Mrs. Rougier interrupted.

"Yes, why don't we, it would be lovely! Eva has a delightful little studio — in the older part of town."

In the poorer part of town, thought Eva, why don't you just say it. Aloud, she said, "I don't have guests come there. I can bring a new carving here."

"Oh, no, I wouldn't dream of troubling you to walk so far again, Eva. We'll just drop by tomorrow, say four-ish? We won't be in your way, I promise. Don't you think, Frances?"

Ms. Messersmith nodded. "Charming."

"Thank you so much, Eva. We'll see you tomorrow."

Dismissed, Eva had nothing to do but trudge slowly home.

Joe was there. She could tell by the smell of the room — a hint of tobacco and beer. She glanced at the stove and saw he'd been into the stew she'd left simmering. She put the receipt for her carving on the work table and walked

over to the kitchenette, began to clean up the mess he'd left, wondering why she put up with it. To get away from her family's demands and criticisms, wasn't that why she'd left the pueblo? If she were a white woman, she could have just thrown her brother out.

"Hey, Eva." Slam of the bathroom door.

She turned on the water in the sink. Hot bubbles foamed over her hands.

"You sell?"

Eva shook her head.

"Shit. Give me twenty, then."

She fought the rising fear and anger. "I don't have it."

"Well, you better get it."

"Go away, Joe."

He muscled up beside her as he'd done when they were kids, thrusting his barrel chest forward from skinny hips. Eva turned her head and stared hard into his eyes, the way she'd defended herself all the years. Her look said, don't push me, or I'll set the wind on you. She held it, praying he wouldn't hear her heart pounding.

He backed down, eyes growing shifty and nervous; he shuffled away. Eva breathed again, rinsed a dish and set it in the rack.

"I gotta pay somebody," Joe said, whiny now.

"I can't help you."

"Shit."

He pulled a beer out of the refrigerator and popped it open. Eva dried her hands and went to her work table, taking out a new piece of cottonwood. It was silky smooth under the bark, soft and pale. Two little knots right together reminded her of eyes — an owl?

She stroked it, and sighed. An owl was not Southwestern enough. People carved owls back east. She set the wood back on the shelf and took up another piece. This one was twisted, deformed. Like Santa Fe.

Joe belched.

"Go away, Joe. I can't concentrate."

"Listen to the big artist."

Eyes flared. "Shut up!"

"You haven't sold nothing since the Market."

"That's more than you've done. If you want any money you'd better leave me alone to do my work."

"You should go back to the pueblo and get married."

"I mean it, Joe."

"Cept nobody'd take you. You coyote ugly."

"Get out!"

The shifty look came back, and his eyes slid away from hers. He got up and pitched his empty in the sink. Grabbed his denim jacket from a chair back, and headed for the door with a parting shot.

"Women aren't supposed to work wood. Grandfather was crazy to teach you. A woman should get married, have kids. That's what you're good for."

He dodged out as a whirlwind of pencils, dust, and small objects blasted across the room and into the door behind him. Eva's anger drained and she blinked stupidly at the mess. Then she got up to fetch the broom.

Coyote ugly — you chew your arm off to get away the next morning rather than wake her up.

Eva rubbed her temples, then her eyes. The tiny light on her work table cast a golden pool of brightness in the dim room. In the pool lay the twisted stick she'd been trying to coax into life. It had a rattlesnake's head — sharp fang danger — and the beginnings of rattles, but in between it was just a stick, stripped of bark and with a few scales carved in.

Sighing, Eva got up and went to the kitchenette, lit the stove and put the kettle on. Then she walked over to the metal shelves where she kept her tools and her few books. On the top shelf lived Coyote, little eyes shining black up by the cracked plaster ceiling. Gently Eva lifted him down.

Grandfather had carved him while Eva watched, and given him to her before he died. She remembered receiving Coyote from trembling, blotched hands. Now she set him in the pool of light on her table. He stood half crouched, gazing intently, poised to fight or to flee. Warm memories washed over Eva as she looked at him.

Every curve, every line, every hair lovingly carved was a lesson. Grandfather had talked as he worked the wood, telling her stories; how Coyote had tricked, stolen, cheated, and been tricked and cheated in return. Yet there was always another layer of meaning, peeled back like bark from satiny wood. Coyote never lost his innocent wonder at life. Coyote learned his lessons the hard way and in this he was a teacher. He did what he had to; he survived, on his own.

"Coyote is like you, Eva," Grandfather had said. "He frightens silly humans with his mischief." And Eva had shrunk against the tree-roots.

"Coyote is like me, too," said Grandfather, as little curls of wood fluttered off his fingers onto his faded dungarees. "He has no friend but himself. He licks when he can lick, he bites when he must bite. He's free."

"But you have me, Grandfather. I'm your friend."

"You are? Are you sure I won't...bite you!" He caught her up, tickling, and Eva's shrieks filled the summer sky.

The kettle screamed; Eva hurried to turn it off. She made coffee and carried her cup back to the table. Set Coyote back from the light, where he watched while she picked up the snake-stick.

Tiny flakes of wood fell from her hands to the table. Every couple of minutes Eva sent a twist of air across to carry the debris into the wastebasket at one side. Each puff of air was an act of defiance. At home, her mother would have punished her for it. "You want people to think you're a witch?"

Eva remembered the beating she'd received one winter during the Turtle dance, the year her mother had caught her using wind to sweep the house instead of a broom. She'd been terrified just at the sight of the *Tsave Yoh*, with their masks and their Spanish whips, and after they beat her they told her mother to tap on the chimney if Eva was bad again, and they'd come and take her away to their labyrinths under the hills.

"And if we find you are a witch, we will eat you," they'd told her.

That night, as she lay shivering in her bed, trying to weep as quietly as she could, Grandfather had laid a hand over her mouth, and silently placed Coyote under her arm. She had never slept so well.

Eva looked up from the stick in her hands to Coyote watching warily from the shadows. Smiling, she reached out to stroke his back.

"You are my only friend," she whispered.

Coyote just kept watching.



AT FOUR THE next day Eva sat at her table, nervously listening as she whittled her stick. It still wasn't a snake. Maybe it would never be one. She held it at arm's length. It looked like a stick. She put it down and pushed away from the table.

Eva went to the stove and put on the kettle. It was still hot from the last

time she'd boiled it, but she put it on anyway. She wiped the spotless counter and looked around the room. It was tidy and comfortless. It needed painting. Eva sighed and sat down again, picking up her carving.

The long, straight section was the least snake-like. Maybe a slight twist would bring it to life. She picked up her knife and gently scraped at the carved scales, finding smoothness beneath, her mind already picturing the arc of scales up the side of the wood. Yes, much better. She glanced up at Coyote, still watching from the back of the table. He seemed to approve.

A sharp knock at the door made her start. Eva rose and smoothed her skirt as she went forward. The door creaked as she pulled it open.

"Hello, Eva," said Mrs. Rougier, stepping inside. "Didn't you hear the bell?"

"It doesn't work," said Eva, closing the door behind Ms. Messersmith.

"Oh, yes," laughed Mrs. Rougier. "I forgot." She was wearing a skirt painted with Hopi designs in pink and purple, a pink woolen shawl, pink suede boots. She unwrapped the shawl from her shoulders and dropped it on Eva's chair. Ms. Messersmith wore black, and a sour look. She stood just inside the door, gazing around the room.

"Would you like some coffee?"

"That would be lovely, thank you, Eva. Oh, is this your latest piece?"

Eva glanced to where Mrs. Rougier stood by the work table, nodded. She put a filter and coffee in the top of her old battered pot, poured hot water over. It splattered in the bottom half, and a warm smell arose.

"You see, Frances? A snake! Isn't it lovely?"

Eva carried cups of hot coffee to the ladies. Mrs. Rougier had the carving in her hands, turning it around.

"See how she's done the tail? Look at these rattles. Eva, isn't there something about the rattles?"

"They grow a new one every year."

"So this snake would be one, two —"

"What's that, some kind of fox?"

Eva looked up, saw Ms. Messersmith pointing at Coyote. Mrs. Rougier stopped counting. Eva stepped around the table and picked him up.

"No," she said. "He's a coyote."

"Oh, let me see," cried Mrs. Rougier, taking Coyote from Eva's hands.

"Oh, how beautiful it is! Frances, look!"

"I never saw a coyote that wasn't howling at the moon," said Ms. Messersmith.

"That's wolves," said Eva, fighting anger. "Wolves howl at the moon. Coyotes sing to each other."

"Oh, it's lovely, Eva! Why haven't you brought it to the gallery?"

"I didn't carve him." Eva reached for Coyote, but Mrs. Rougier turned away to her client.

"Look at his eyes, they almost look alive! Did you paint them, Eva?"

"They're beads."

"Very good," nodded Ms. Messersmith, running her hand along Coyote's back. Eva clenched her fists at her sides.

"How much?" asked Ms. Messersmith.

"He's not for sale."

"Oh, Eva, you *must* sell it! Such a beautiful piece! It should be on display where it can be admired."

Eva could hear the front door opening. She felt panic rising, stepped forward and took Coyote back. "My grandfather made him. He's not for sale." She hurried to the shelves against the back wall.

"I want him," said Ms. Messersmith. "Just name your price."

Eva stretched to place Coyote back up in his corner. "Not for sale," she repeated. She turned back to the room. Ms. Messersmith looked offended, Mrs. Rougier disappointed. Behind them Joe stood in the doorway. With a tiny jerk of her head she told him to leave. She was not sure whether to be glad when he obediently closed the door.

Ms. Messersmith's coffee cup clacked hard on the work table. "I've seen enough."

"Oh, Eva, I hope you'll reconsider. It doesn't matter if you didn't carve the piece...." Mrs. Rougier faltered under Eva's silent gaze. "Or maybe you could carve another one? Yes, your own work! That would be lovely, don't you think, Frances?"

"Mm," grunted Ms. Messersmith.

Mrs. Rougier's smile fluttered hesitantly around her face. "Well, I think we should go now. We don't want to keep Eva from her work." She retrieved her shawl and hurried to the door where Ms. Messersmith waited. "Thank you so much, Eva. Be sure to bring the snake by when it's finished."

Eva watched from the door as they went down the uneven stone steps to

where a silver Mercedes was parked. Hurrying away from her because she wasn't what they wanted her to be. It made her angry. She had tried — she'd spent hours on the snake. Instead they wanted Coyote, whom they could never, never understand.

The air was sharply cool already, hinting of fall. Eva shivered and closed the door.

She sat down at her work table, but did not pick up her knife. Instead she stared up at Coyote, crouching in his corner.

The door creaked open; Joe.

"Who were they?"

Eva's gaze dropped to her hands clasped in her lap. "Mrs. Rougier owns the gallery. She brought a customer over."

"They buy?"

"Maybe a commission."

Joe grunted and headed for the fridge. Eva watched him fix a sandwich. He took the sandwich and a beer and plopped down on her bed, turning on the TV. She frowned, wishing he would go away. It was hard to concentrate when he was around. Sighing, she got up and poured herself a cup of coffee, brought it back and sat down to work. The TV blared.

Slowly, patiently, she began to coax the snake out of its stick. The twist she'd added lent just the right movement to the form. Eva sighed, anger fading, and bent closer, beginning to enjoy this new carving. She deepened the scale cuts, added more detail to the rattles, feeling the snake's emotion begin to emerge. Forgetting the TV, forgetting demands from Mrs. Rougier and Joe, she lost herself in the work and felt free; only her hands and the knife, and the beauty she was creating, existed.

After a while she stretched and looked around, noticing the room beyond her work light was dim. The *Sangre de Cristos* glowed pink outside her window; sunset. She flipped on the light switch on her way to the bathroom. As she washed her hands, she looked up at herself in the mirror and smiled. Set in her flat face her eyes glowed with warm excitement; triumph of creation. Times like this were good, she thought, drying her hands.

The front door creaked, then shut.

"Joe?"

No answer, TV still blaring. She went over and turned it off, picked up Joe's dirty plate and beer can, put them on the counter and returned to her

table. As she sat she glanced up with a smile at Coyote.

He was gone.

With an anguished cry she jumped up, knocking over her chair as she ran for the door. Yanking it open, she saw Joe halfway up the street, Coyote tucked under his arm. He turned, saw her, ran.

"Joe!" she screamed. For a moment she stared in disbelief, then she snatched her keys from the nail behind the door and slammed it behind her as she flew down the steps and into the street. Joe was rounding the corner, heading for Agua Fria Street. Eva tore after him as fast as she could. She reached the corner just in time to see him turning east. The chill evening air burned her lungs as she gasped it in. She followed.

As she started across the street a turning car shrieked its brakes at her. Eva screamed back at it, then kept running, the driver's curses fading behind her and her heart pounding.

Joe was leading her toward the plaza. The closer she got, the more people and the fewer cars she met. Fiesta was beginning, and soon the plaza would be swarming with pedestrians. The streets were already blockaded. Eva dreaded the crowd where she might easily lose Joe. One dark head in a denim jacket looked much like another.

She reached the southwest corner of the plaza and stood gasping, eyes searching the crowd. At the far corner she spotted Joe, and forced her aching legs to run again. He struck north, and Eva knew a moment's dread — he was heading for the gallery, and would reach it before her.

Then joy burst into her mind. The gallery was closed; Mrs. Rougier was treating her best customers to a gourmet picnic in Fort Marcy Park, to watch Zozobra. Eva would catch up with Joe at the gallery, and take Coyote back.

Brushing past tourists in festive colors and locals in their own fashion statements, she hurried uphill. The light was fading fast and Eva could hear the dull roar of many voices and a distant throb of mariachi music. She slipped onto the twisted street that led to Alamosa Gallery and the crowd thinned suddenly. Eva ran on.

Slowing to a walk as the gallery came into view, Eva saw Joe staring at its locked door. She closed her parched mouth and breathed the crisp air through flaring nostrils. Joe turned and saw her.

"They're gone," she called, and in the same moment Joe sprang from the porch and dashed up the street. With a cry Eva followed, slowing by the

gallery door just long enough to recognize Mrs. Rougier's handwriting on the note taped to it. Joe turned north again between two buildings, making for Fort Marcy.

Breathing hurt now and Eva focused on continuing to move. She crossed streets choked with people and got soft dirt in her shoes in rough alleyways. Occasionally she remembered to look for Joe. She spotted him twice; they were moving across the tide of people heading for the park's gates. Across the arroyo, uphill skirting a gently eroding bank, and suddenly Eva was above the park and Zozobra loomed before her, the huge white-robed figure with its black bow tie and buttons, dwarfing the nearby buildings, standing still in the darkness like an actor waiting for his cue while tiny mariachis warbled at his feet. Beneath him the park teemed with people — no lazy rooftop picnics now. People crammed through the gates, shouldering each other for a view.

Eva stopped, panting. Her head throbbed and her legs were shaking. She looked around for Joe. The mariachis flourished to an end and the sea of people below her applauded, yelling and whistling over the unintelligible announcer's voice that boomed through speakers and echoed off the hillside.

From her vantage point Eva could see tiny figures moving forward to positions behind Zozobra, ready to work the cables that moved his arms and head. She searched for her brother among them. Then she spotted a pale gleam against denim; Coyote's head peeking from beneath Joe's arm. Joe was scanning the crowd below, searching the picnic cloths which were the only spaces not totally covered with bodies. Eva began to work her way toward him.

Small white-sheeted torch bearers filed across the platform and down the steps, performing their traditional opening dance. A part of Eva responded, remembered excitement and anticipation awakened as the drums began their slow heavy pounding and Zozobra uttered his first low moan. She dragged her mind back to her brother and hurried forward. Joe had climbed down the hillside heading for the park. Eva scrambled after him, puffs of dust kicked up from soft caliche. She kept his bobbing head in sight; the only face not turned toward Zozobra. He had reached the fence and was starting to climb it. Eva began to run, but stopped as a policeman accosted Joe from the other side of the fence. Joe dropped to the ground, started back up the hill at an angle. Eva scrambled after.

A flash of light and a roaring cheer announced the entrance of the Fire

Dancer. From the corner of her eye Eva glimpsed silver and red flying ribbons, but she kept her attention on Joe and caught up with him halfway up the hill. She grabbed his arm.

"Get off!" he yelled, still climbing up the hill, dragging her with him.

"Coyote's mine, Joe! Give him back!"

"You can carve another, big shot artist." He tried to wrench his arm away. "Let go, *bruja!*"

"Give him back! She won't buy from you anyway."

"Yes she will. You watch."

"No!" Eva grabbed for Coyote. The back of Joe's hand slammed into her face and she fell, white lights flashing in her head. Zozobra's outraged howl penetrated the ringing in her ear, and softer voices nearer asking, "You all right?"

Eva struggled to her feet, brushing off dust and helping hands, and ploughed her way back up the embankment. Joe was running north; he would skirt behind Zozobra's puppeteers to the west, to sneak through the clubhouse and into the park. Eva tried to run but every step brought pain; she stood with tears streaming down her face, watching the dark form slide through shadows along the back of the hill, while Zozobra flailed his giant arms at the fire dancer's threat and the crowd chanted, "Burn him, burn him!"

Twin waterfalls of fireworks flared to life on either side of Zozobra, illuminating Joe's denim back, and a sudden breeze lifted the falling sparks. Without thought Eva caught the breeze and fed it, pouring anger into it and wrenching it into a screw. The crowd gasped as the vortex caught dust and sparks and swelled suddenly. Eva's scream of anger joined Zozobra's roar and the dust devil leapt taller than the puppet, sucking the fireworks into itself and spitting sparks in all directions. She pushed it toward Joe.

He was still running but the devil caught him and he stood struggling for balance, buffeted, dust and sparks flying about his head. Zozobra was burning a few yards away, fire glowing inside his howling mouth; Eva caught a strand of flame and wove it into her whirlwind. The fire was hers now, and into it she put not only Joe but Mrs. Rougier, Ms. Messersmith, her mother. All the people who pushed her; she gave them all to the flames, the purging fire of Zozobra, flames and the white heat of her rage blotting out everything else.

Vaguely she heard screaming; the crowd was frightened by the fire. Silly people, she thought. The fire's good. Let it burn away your troubles. The

flaming whirlwind stood like a torch against the night, dwarfing Zozobra, Someone near her cried, "It's beautiful!" and Eva smiled.

Joe's jacket was on fire. He flung his arms up over his head and fell to his knees, flames dancing over his back. Coyote dropped to the ground.

Shrieks filled the air; the crowd's hysteria obliterated the drums and Zozobra's amplified howls. Dark shapes were swarming up the hillside like cockroaches. Joe disappeared behind the tide but the whipping flames kept the rescuers at bay. The wind had quickened the fire and Zozobra ceased to thrash, abandoned by his manipulators, his eyes glowing green in his burning head and bits of flame already falling to the ground from limp skeletal arms. The recorded drums continued but Zozobra was silent. Shocked chatter ran through the crowd; someone nearby whimpered.

Enough. Eva sighed and let go of the flames. The dust devil sailed gently overhead, whispering now as its power dissipated.

Pandemonium erupted in the park. Eva ignored the frightened, excited voices; she slowly climbed the steep embankment and drank in the deep, cool night.

A mass of firemen and policemen were swarming like ants around where Joe had fallen. An ambulance that had been standing by drove up, and she glimpsed Joe standing, arguing, then being strapped onto a stretcher. A pang of sadness was gone in an instant; Joe had earned his punishment. All their lives he had pushed her, now Eva had finally pushed back. She knew he wouldn't bother her again.

Looking at Zozobra, now engulfed in flame but forgotten by his audience, she thought of the old tradition; burn your troubles for a year. Eva smiled. She was free.

And she was beautiful. You didn't have to have a pretty face to be beautiful, you didn't have to be what other people wanted. You just had to make your work — carving or fire — the best it could be. She knew that now.

She looked up at the stars, hundreds of them piercing the black night. Grandfather's voice echoed in her mind, telling of Coyote, who set out to help place the stars in patterns but then scattered them over the sky because it was too much work. It made the others angry, but Coyote said, "It's better that way," and he was right.

Something soft and warm touched her leg. Eva looked down into

Coyote's glowing eyes. Beautiful Coyote. Yes, she was like him. She didn't need anyone else to say so. No one else could ever understand her own particular beauty. She picked Coyote up, cradling him to her, and padded through the back streets toward home, attended by summer's last sweet breeze.



H. W. Lewis

"I'm terribly sorry, but next week is the blessing of the animals."

Marina Fitch has become a favorite in these pages. In addition to F&SF, her short fiction has appeared in Writers of the Future, Pulphouse: The Hardback Magazine, and Marion Zimmer Bradley's Fantasy Magazine. She has stories upcoming in Isaac Asimov's Science Fiction Magazine.

Marina wrote "Sarah at the Tidepool" as the result of a challenge. All of the attendees at the Rockaway Beach Writing Retreat were to write science fiction stories. Inspired by the Oregon Coast, Marina's story features an interesting little creature, the nudibranch.

Sarah at the Tide Pool

By Marina Fitch

SARAH CROUCHES BESIDE THE tide pool, her water bottle beside her knee. She tugs the brim of her straw hat, tucking a lock of her brown hair under

its band, and smooths the sleeves of her cotton blouse in hopes they will help protect her from the sun. An hour's exposure, wearing a forty-two sun block, is considered an acceptable risk for people in their twenties; Sarah is thirty-seven. She glances over her shoulder at the expanse of yellow sand stretching behind her, at her footprints wandering in and out of the surf. No one in sight. Only fools risk the late May sun at noon — fools and desperate people.

She hesitates, then dips her hand beneath the surface of the tide pool, bracing herself against the chill. But there is no chill, just the coolness of the water as it churns briefly with the runoff of a wave. She makes a mental note to record this observation when she returns to her lab, then remembers. She may never see the lab at MediChem again.

She squints down the beach. Where is he?

She turns back to the pool. Framed by algae and rock, the tidal world

shimmers below her. A hermit crab, startled by Sarah's shadow and her hand, scuttles into a protective niche between two green anemones. The pool drains. Exposed to the air, the anemones squeeze shut so that they look like plastic tubes with tufts of yarn sticking out. A decorator crab heads for a fissure, its shell drably ornamented with barnacles, a tiny anemone and a fringe of algae. Mussels and starfish cling to the rock. Sarah smiles wistfully. She hadn't really expected to see a nudibranch in the narrow pool.

On a Sunday morning in February, Sarah unlocked her lab and found a stranger waiting for her, bent over the aquarium. He straightened, towering over her five feet. "What are you doing here?" she demanded.

The tall man tapped the aquarium wall. The security badge clipped to his collar jiggled. "Are these the nudibranchs? They look like slugs."

"Please don't tap the glass," Sarah said, grasping his hand between her thumb and her index finger. She guided his hand away from the glass, then dropped it.

The man folded his lean body into a crouch. The shadows of the aquarium bubbles played across his features, across the broad cheeks and the nose flattened as if pressed against invisible glass. "I can't believe how many requisitions you've put in for these things."

Sarah fisted her hands and scratched her palms with her fingernails. "I use them in my research."

The man turned, watching her for a second. "I make you nervous."

"Strangers in my lab always make me nervous."

The man stood. He stroked the base of the STM settled on the counter next to the aquarium. "Dr. Huron, I'm hardly a stranger — well, not to the company." He extended a hand. "Jason Whitcomb. I'm also with MediChem."

She shook his hand, then pulled her own away.

"You're developing an artificial skin," he said.

She leaned against the far counter, pressing against it as if she could embed herself into the pine cabinets. "An organic skin, to replace damaged skin," she said.

"And a temporary one people can apply instead of sunscreen," Jason Whitcomb said. He pursed his lips. "You know, I've found that a lot of researchers have a personal motive behind their work. What about you? What would this skin allow you to do that, say, a sunscreen wouldn't?"

Swim?"

Sarah studied him; she didn't trust him, not with knowledge as personal as her mother's cancer. "Swim, yes. And I, uh, I miss visiting the tide pools at Thieves' Point."

"Thieves' Point?"

"I used to go there a lot as a child. I still go there once in awhile when I need to think or when I'm stressed."

He nodded, eyebrows raised. "I understand your research is coming along very well."

Sarah reached behind to steady herself. Her fingers tightened on the lip of the steel sink. "My project is classified."

"I have top security clearance."

"You haven't proved that, your clearance."

He smiled; a broad grin further flattened his nose and narrowed his gray eyes. "No, I guess I haven't," he said. He unclipped his badge and handed it to her. She scrutinized it, then handed it back.

"Why so many nudibranchs?" he said.

"I like them. Each species is different. Each has its own defense."

"You like that."

"Everything should have a defense," Sarah said softly.

STILL AND quiet, Sarah watches the tide pool. Her knees are a little unsteady; she places a hand carefully on the rock, avoiding the sharp edges of the mussels and barnacles. A wave breaks over the far rocks in a plume of spray, the froth surging to beat against the outcrop where Sarah waits. It sluices into her tide pool, washing over the anemones so that they bloom into mums of tiny, undulating fingers. Timidly, the hermit crab creeps from between their stalks.

Sarah exclaims and leans forward. The hermit crab's shell glistens, as black as Richard's eyes.

Sarah looked anywhere but at Jason Whitcomb as he spoke. Her gaze traveled the lab: a fifty-gallon tank of nudibranchs, two STMs with fractal display screens, a multitude of cupboards, clean white counters, the coffin-shaped glass flotation tank, the refrigeration room. And that was just what

she could see. Behind the counter and cupboards where Jason Whitcomb perched sat the Mitsubishi molecular computer, laser diode spectrometer, a centrifuge surrounded by rows of test tubes and pipettes; beyond that a door leading to a hall lined with the other labs and the tiny windowless rooms that housed shared equipment.

The only world Sarah knew.

"— is vital to the company," Jason Whitcomb said. "We need that skin to keep us afloat — keep us competitive. Dr. Huron?"

Sarah blinked, turned to meet his gaze. "Mr. Whitcomb?"

"Jason, please," he said.

Sarah nodded absently.

"Anyway, as you know there has been maximum security around your project — "

"What do you want from me?"

"Sarah — "

"Dr. Huron, please."

He pursed his lips. "Dr. Huron," he said distinctly. "One of our competitors, Hansen Biomedicals, is on the verge of developing their own arti — uh, 'organic' skin, despite the fact that a year ago they had no such project on record."

Sarah shook her head. "If they can create an organic skin, more power to them. Without it, people aren't going to be able to lead normal lives. What we're talking about is survival, Mr. Whitcomb."

"Jason." He straightened. With his shoulders squared, he looked even more threatening. "Yes, Dr. Huron. Survival. The survival of this company. And, need I say it? The survival of your research."

Sarah looked away.

"If Hansen succeeds first," he said coolly, "MediChem has no reason to fund your research. MediChem would probably be forced to shut down your lab."

Sarah winced as her stomach clenched.

"What we want from you is a skin, one that can secrete a toxin that will kill anyone the wearer touches."

Sarah's mouth went dry. "My God."

"Just like the nudibranch that dissolves its enemy." Jason's voice softened. He tapped at the aquarium again. "Which one is it? The pinkish,

ragged one? Or that yellow one?"

Sarah held onto the counter for support. "I can't do that."

"Sure you can," Jason said. "You've already made a prototype skin. Now you just create one with microscopic glands that secrete a neurotoxin. One that can be released at will."

"I can't."

"You like your job, don't you, Dr. Huron? But you must. You spend all of your time here. You have no friends outside this building, no one you spend time with...."

Sarah's hands tightened on the counter. "Did it ever occur to you what the neurotoxin might do to the wearer?"

He shook his head. "The nudibranch doesn't die. Why should the assassin? You can insure that, Sarah."

Her stomach knotted. "I don't want to see my research used — Who are you planning to...?"

"Someone who used to work here. Someone who took classified documents to Hansen."

Sarah closed her eyes. She pinched her temples, trying to ease the sudden pounding in her head. "Who?"

"Dr. Richard Madera."

Sarah released her temples. A surge of blood slammed her heart to a stop, her pulse raced when her heart began beating again. She opened her eyes. Jason's face floated across from her on a tide of actinic flashes.

He smiled. "So you see," he said, "not only would it be an act of loyalty, but one of revenge."

The hermit crab scabbles across the floor of the tide pool, pausing to shove aside a pebble in its path, then darts over the uneven stone to a pocket of sand just beyond Sarah's sight. She leans further over the pool. The hermit crab trots into the fissure only to back out quickly, followed by the claw-waving decorator crab. Sarah smiles.

Richard liked hermit crabs. He refused to let her keep a tank of nudibranchs at home, but he encouraged her to keep hermit crabs. He liked to watch them change shells. He brought home shells for her hermit crabs the way some spouses brought home flowers for the piano. Perhaps if she could remember when he stopped bringing home cowries and conches, she

could figure out when and why the marriage went sour.

But maybe not.

Sarah reaches for the hermit crab, careful to touch only the shell, not the tender body. The crab tucks itself deeper inside its fortress. Sarah lifts it from the water. Frantic, it shakes a claw at her.

SARAH LOOKED up from the microscope and stared at the cupboards and equipment around her, a habit she'd fallen into since Jason Whitcomb's visit five days ago. She could call the police, but no one would believe her. And even if they did, MediChem would cover it up, Richard would die in some "accident," and she would lose the lab.

She placed her hand against the cool wall of the tank. The lab was her world. And now that world had been invaded by Jason Whitcomb — and Richard's voice.

Whenever she relaxed, her mind replayed the night Richard left. *Maybe I just need a fling, maybe I'll be back*, he'd said. *But right now, I need someone with a real life, someone alive.*

My work is too important right now, she'd said. *I need to develop that skin so my mother and people like her can live.*

Sarah, you work seven days a week, twelve, fifteen hours a day. You don't care about people — you don't see your mother anymore, or anyone else. You don't even see me, and I live with you.

I see you when I get home from the lab.

For a whole half hour before you drop into bed. You're hiding in that lab, closing yourself off.

I'm getting results! What are you getting?

He'd glared at her through hateful, narrowed eyes. *God, I'd love to smash your lab, force you out of your insulated little cave.*

But the next morning it was Sarah who did the smashing. Lining up his prized Waterford crystal on the concrete patio, Sarah had taken Richard's hammer and shattered each tumbler, each wine, sherry, and champagne glass. "Just try to use these with her!" she'd shouted. "Just try!"

A giddy elation bubbled through her all day, sustained her whenever a pang of loss clawed at her in the lab. Sustained her — until she went home to the wink and sparkle of splintered crystal.

By the time Richard returned two days later to collect his things, she had replaced each glass — after twenty-seven phone calls and a hundred and thirty-three mile round trip to three specialty stores in San Francisco.

Sarah blinked and turned to watch a spotted nudibranch creep along the bottom of the tank that stood beside the microscope. Her temples pounded. *God, I'd love to smash your lab, force you out of your insulated little cave.* She rubbed her eyes. Was that what Richard was doing — smashing her lab by beating her at her own research? A cold anger built in her. He had his airhead lab tech, why couldn't he just leave her alone? Why destroy the only thing she had left?

Sarah winced. The only thing?

She remembered the day her father called the lab. No one else had come in that day, Sarah answered the phone. At the sight of her father's face, she tensed. Staring at the palm-sized vidscreen, she prayed her mother hadn't found another melanoma. "What is it, Dad?" she said. "Is Mom all right?"

"She's fine. She's right here beside me, Pumpkin," her father said. Her mother leaned into view. "We just wanted to wish you a Merry Christmas."

Her eyes suddenly focused on the lab. Snowflakes cut from old memos flurried across the window while garlands of colored pipette tips hung from the overhead cupboards. Undoubtedly the work of Freda and Sam, the lab techs. "Is it Christmas, Dad?" she asked.

"Ho ho ho! Sure is, Pumpkin," her father said.

Her mother smiled. "Merry Christmas, darling."

She hung up the phone, walking to the window to peer out at the woodland beyond. Richard had always dragged her from the lab on Christmas Eve, bodily if necessary, and driven her to the snow. Then at midnight they had toasted with the Waterford champagne glasses. But this year Richard and his airhead toasted in some alpine cabin.

She'd turned away from the window and gone back to her work. She had her research; there was nothing she'd rather be doing. Nothing else worth doing.

Sarah pressed her hand against the side of the aquarium. "Damn you, Richard," she said. "You could at least leave me this."

One of the lab techs leaned toward her. "Dr. Huron?"

"Nothing, Freda," Sarah said, forcing a smile. "Just talking to myself."

"I'll be back next week," Jason Whitcomb had said that first Sunday.

Sarah imagined Richard wielding a sledge hammer, shattering the aquarium and the microscopes. Then she imagined him in a heap, his limbs partially eaten away by acid. A chill satisfaction filled her, followed by an aching loneliness.

Sarah sets the hermit crab down carefully. It skitters toward the fissure, scrambling over the top of the decorator crab. The larger crab raises its claws and sidesteps in pursuit of the intruder.

"Someday you'll get out of the tide pool," Sarah tells the hermit crab. "Just don't get caught in another one."

The following Sunday Sarah walked into the lab to find Jason Whitcomb perched on the counter by the sink. "Been to Thieves' Point lately?" he asked.

Sarah looked away. "Yesterday."

"Ah, been thinking. And what have you decided?"

Sarah rubbed her temples to keep the headache at bay. "Why this? Why go to all this trouble?"

Jason shrugged. "Because not only do we want to kill him, we want to discredit his research. If he dies of some weird, mysterious neurotoxin — one which, incidentally, we'll also use to contaminate his cultures — the public will never trust his nano-engineered skin."

"If someone finds out about it."

"We'll make sure someone does." He smiled at her. "The public loves a mystery and the media loves to give it to them."

The headache blinded Sarah momentarily. She closed her eyes. "Wouldn't it be enough to destroy his lab?"

"We could leave him a vegetable."

She opened her eyes. "So whatever I decide, Richard is dead."

"Looks that way." Jason studied her. "You know, Dr. Huron, at your age it's tough setting up a new lab with a new corporation...providing anyone hires you. MediChem would never be able to recommend you, of course."

He nodded thoughtfully, almost sadly. "I met a man with a Ph.D. in biochemistry the other day. He was working at a men's clothing store. Said he couldn't get a research position. Tried for years. Dried up, bitter man."

Sarah shuddered. "I wouldn't have to wear the skin?"

"No. We've got someone lined up for that."

"And this person is going to shake Ri — the victim's hand repeatedly or something?"

Jason's smile deepened. "Seduce him. You know, don't you, that he left the lab tech?"

Sarah straightened, her shoulders rising.

"Oh, yes," Jason said. "She didn't last long, just a couple of months. He's been, how should I put it? 'Sleeping around' quite a bit."

Her shoulders collapsed. *Maybe I just need a fling....* Or maybe a hundred flings. Or maybe he would never come back. "He was working on a cure for lung cancer when he worked for MediChem."

Jason's eyes narrowed, but not with a smile this time. "That's what he wanted us to think."

Sarah laughed incredulously. "You can't believe he was an industrial spy from the start!"

"He left suddenly, didn't he? Both you and the company. Maybe he got what he needed from both of us." His voice dropped to a whisper. "He used you, Sarah."

Her stomach knotted. Used her, then thought so little of her, he'd set about to destroy the most important part of her life, the only thing left of her life. In her mind she swung the hammer, not at Richard's Waterford crystal, but at his head.

The cold glint in Jason's eyes grew icier. "Are you going to help, Dr. Huron?"

Sarah flushed.

Jason scraped his foot across one of the cabinet doors. "Of course, if you refuse, you may prove too dangerous...."

Sarah stared at the floor, imagining it opening up to swallow her. The chasm rumbled wider, one side stretched by Richard, the other by Jason.

Sarah looked up at Jason slowly, her gaze taking him in from foot to face. She paused at his crotch, wondering if the man was devoid not only of a heart but of other traces of humanity as well. She looked him in the eye. "All right," she said. "I'll develop the skin for you. But I'll need to run tests on the person I'll be grafting."

Jason hopped from the counter. His shoes slapped the linoleum. "She's waiting in the lounge down the hall."

"Wait, how soon —" Sarah caught at his arm, then pushed him away,

startled at the contact. Jason wheeled to look at her, surprised. Sarah curled into herself, lifting her chin. "How soon do you expect me to have this finished?"

"Not till early summer. Say, end of May, early June."

"I don't know if I can —"

"I know about your prototype, Sarah."

She shook her head. "But two months —"

"You can do it, Sarah. You *will* do it." He walked briskly to the door.

Sarah paced before the aquarium. Her mind sped through every process and experiment that had produced the skin. Yes, she *could* do it. The prototype needed few improvements and the glands —

She turned when the lab door clicked open. Jason escorted a young woman in by the elbow. Sarah scored her palms with her nails. A tall woman, the assassin strolled into the room, her thick waist and round, pert bottom accentuated by her stride. In stature and in build, she was similar to Richard's lab tech — except for her mane of red hair.

Sarah glances over her shoulder again. A lone figure appears on the horizon, wavering like a mirage. Sarah turns again to the tide pool. She hugs her knees, resting her chin between them as she stares into the water. A transparent fish no bigger than her little toe darts across the pool, brushing the tentacles of the larger anemone. The anemone closes on the fish, clasping its prize in its fist of stinging fingers.

Celeste sat beside the flotation tank, her right arm submerged in the buoyant fluid. Wired dermals dotted her forearm like moles. "So why did he leave you, he ever tell you?" she asked.

"Sort of," Sarah said. She liked Celeste's Sunday visits, even though the other woman insisted on bringing up painful topics. Sarah touched Celeste's arm above the elbow. "Move your arm. I want to see if the graft is taking."

Celeste twisted her arm, the gel coating her forearm translucent, glistening. "How long before it becomes skin?"

"Another half hour." Sarah touched the edge of the graft, a bit of the gel sticking to her fingers. "Celeste, are you putting on weight?"

Celeste shrugged her left shoulder. "A little. So, anyway, why did he leave?"

"He said he wanted more out of a life," Sarah said, checking the monitors. Everything looked good. There was no sign of tissue rejection. "I've told you this."

"So he went after some blonde twit. He have a thing for blondes?"

"Yeah. I mean, that's what he always seemed to notice. You know, when we were out to dinner or out to a movie." Sarah smiled, shaking her head. "I used to tease him that his ideal woman was a blonde of about five eleven with no waist, thick hips, and a wide bottom."

"A fat ass, huh? And is that what this lab tech was like?"

Sarah winced. "Yeah. Yeah, she was."

Celeste shifted a little. She glanced over at the aquarium. "Those little nudibranches are kind of ugly. Cute ugly. You ever think about adding sea horses to the tank?"

"Too much trouble." She avoided Celeste's gaze. "I need another blood sample."

Celeste offered her left arm. She grunted at the prick of the syringe. "He really hurt you," she said.

Sarah smeared blood across a slide, then set the slide on the counter. She rubbed the bridge of her nose with the back of her hand.

Celeste touched Sarah's face. Sarah blinked as the other woman erased a tear from her cheek with the tip of a finger. "You really loved him," Celeste said gently. "He was your only real connection to the world outside of this lab."

"I had no idea he was unhappy. One night he came home and told me he was leaving me. He'd accepted the job at Hansen without even telling me he'd applied." Sarah's voice quavered. "I had no idea."

Celeste caught the second tear. "What was he like, Sarah?"

"Oh, a kind man."

"Kind, after what he did to you?"

"He — he seemed kind. And intelligent. A good sense of humor."

Celeste studied her. "Yeah?"

Sarah shrugged helplessly. "He...loved to go for walks in the evening after the UV levels dropped. He was careful about stuff like that, a health nut. And he loved Waterford crystal."

Celeste nodded, resubmerging her right arm which had risen above the surface of the fluid. "He liked Waterford crystal," she said.

"Yes, the way it sparkled. And he liked reading..." Sarah stared into her hands. But what had Richard read? Had she ever asked, ever bothered to find out? Sarah sank to the floor next to Celeste's chair, her legs tucked under her. What had Richard liked? Which sports, which foods? Well, broccoli, but when they went to dinner what sort of dishes did he order? Sarah began to tremble. She knew about his research, about his experiments in molecular assemblers, but what was his favorite dessert? His favorite flower? She buried her face in her hands. What was his favorite color?

Her hands filled with tears. "God, oh God."

Celeste's left arm wound awkwardly around her, pulled her close. "He really hurt you, the bastard. And now he's trying to discredit your research by making it obsolete. Fucking bastard."

Sarah tried to protest, but the words dissolved beneath the weight of her tears. Celeste rocked her, stroking her hair. "Hey," Celeste crooned. "We'll fix him, Sarah. We'll fix him."

Sarah screamed around her fist.

And thought about Richard, and who he was. Thought about those two things all week long, wandering through the house late at night, touching the few books Richard left behind, laying out the jewelry he'd bought her, the delicate wire rings and earrings, the thin gold chain with the three diamonds and the gold star. She played the albums he'd forgotten. And she waited for Sunday so that she could tell Celeste about Richard.

"He likes Chopin and old nineties metal and — " The words died on Sarah's lips as Jason walked through the lab door behind Celeste. Sarah's hands knotted, then fell open in surprise. Celeste strode into the room, dressed in an old black leotard and pink tights. Her hair, once so red, was a pale, sun-kissed blonde. In the past month and a half, her hips and waist had thickened, her bottom ballooned. She was Richard's dream woman come to life.

Sarah's shoulders folded inward. Her chest felt as though it would crack with the pressure. Jealousy weighted the edge. As soon as Richard met Celeste, as soon as — The image of Celeste and Richard entwined, tangled in fresh white sheets burned through her. Sarah's hands clenched and unclenched.

"What do you think?" Celeste said, spinning.

"Perfect, isn't she?" Jason said. "With bait like this, we should have no

trouble landing him."

"Piece of cake," Celeste said. Her eyes glowed with satisfaction. But not just satisfaction — pity stared back at Sarah, and scorn. Sarah searched Celeste's face for the kind, empathic person who had worked so hard at opening her up...worked so hard....

Sarah hugged herself to ward off the sudden chill. Of course it was work. Celeste needed all the information she could get so that she could kill Richard. Kill him. Ice filled the void in Sarah's heart as the reality of it hit her. Not some fantasy, some childish revenge — *dead*. And there would be no putting Richard back together, no calling around to replace him.

Driven by the excitement and the fear, she had lost sight of the goal, had only paid it lip service. As she had with her research....

"When will the skin be ready?" Jason said.

Sarah stared at him blankly, then shook herself. "Two weeks."

"Do you have any further need of Celeste?"

"No. I don't think so."

Celeste smiled at her, a smile tinged with scorn. "Well, Dr. Huron, if that's the case," she said, and turned to leave the room. She paused at the door. "Let me know when you need me for the final graft, Jason."

The door thumped shut. Sarah rubbed her arms.

"We managed to get some information from the lab tech," Jason said.

Numb, Sarah nodded.

"Oh, and MediChem is delighted with your progress. I understand the company is going to budget more money for your research. *That* should give you something to think about. Time for another trip to Thieves' Point, eh, Sarah?"

She stared at him. He crouched before the aquarium, a smirk tainting his lips. Celeste wasn't the only one who had worked hard to reach her.

The mirage solidifies into a man. Sarah watches him for a while, then removes her shirt and her hat. Her body flushes with the unfiltered heat, her bikini top damp with perspiration. She dips her hand in the tide pool, hoping the cold water bubbling over her wrists will cool her. The sea anemone reopens at the disturbance of the water.

Sarah worked on the skin. When it came time for the graft, she spread

the gel over Celeste's body, set the sensors, then helped Celeste into the flotation tank. After injecting the cultures into the gel, Sarah sat down to watch the monitors.

Hours later, Celeste towed off, the chafe of the terry cloth adding a healthy glow to the new skin. Sarah's voice broke as she explained how to activate the neurotoxin glands linked to Celeste's nervous system. She fell silent.

Celeste tossed her ice-blond hair with a laugh of triumph. "Don't worry, Dr. Huron. I'm a professional. And I enjoy my work."

"Enjoy it?" Sarah whispered.

"Killing is exciting," Celeste said.

Jason grinned.

Sarah took a deep breath and began her explanation again.

AS JASON strolls toward her, his unbuttoned shirt flapping in the breeze, Sarah rises. Her right leg tingles awake; she sinks again into the squatting position. She takes a long draught from her water bottle, the liquid tantalizing her parched throat. She hesitates, then chugs the last of it.

Jason stops, staring at her, a frustrated, angry cast to his features. "I knew I'd find you here," he says. "Something went wrong, Sarah."

The blood drains from Sarah's face. She swallows.

Later, Sarah repeated the explanation. "The glands are activated by a pulse rate of 200 or higher. A strong dose of adrenaline will do it."

"And you've given her an adrenaline tablet?" Richard said.

"Yes. Watch her. When you get to the hotel room, she'll probably ask for a glass of water. I made sure the tablet was too big for her to swallow without water."

Richard's lower lip trembled. "You're sure, Sarah?"

Sarah turned away, unable to meet his black eyes. "I'm sure, Richard. I designed the skin. Be very careful. Please."

She expected him to walk away without saying a word, to leave her in the coffee shop alone. At the very least. A string of obscenities seemed likely, too, or even a slap or a punch. Any of them seemed likely considering what she had just told him — that she had helped plan his assassination.

But Richard took her hand under the table, squeezed it, and said, "Thank you."

Sarah looked up. Horror and anger colored his face, but gratitude muted them. "I'm sorry," she said.

Richard coughed. "You hated me that much?"

"I thought I did." She turned away. "I thought you were — were...."

Richard cleared his throat. "You thought I was trying to destroy your research."

She pressed her lips together, nodded. She could only guess at the other lies Jason had told her; keeping her lab was probably one of them. She forced a smile. "I thought you were taking away my reason for living. I have nothing else left, Richard. You know that."

"Sarah," he murmured.

Silence stretched between them. Richard sat up suddenly. "Did anyone follow you?"

"No. I made sure."

"You're positive?"

"I left the lights on in the lab and climbed out the window. And no one's following you. You have a date with her tonight. That's all they need to know about your whereabouts." She flicked her hand free and slid from the booth.

"I better go."

"Sarah?"

She looked at him.

"Sarah, be careful."

Sarah's heart pounds. Jason climbs the rock and looms over her. "What?" Sarah says. "What happened?"

"Something went wrong with the skin," Jason says.

"No, it couldn't have," Sarah says. She stands quickly. Her right leg, still a mass of tingles, collapses under her and she pitches forward. Jason catches her. She clings to him, taking the weight off of her throbbing leg. "No, Jason," she says to his bare chest. "No, nothing went wrong."

He steadies her, his fingers digging into her arms. His voice is low and accusatory. "Bullshit. The whole thing went wrong."

She shakes her head. Her temples hammer as if the veins will burst. "No," she says.

"You lying bitch!" Jason holds her away from him and shakes her. "We know, Sarah. We brought Celeste's body back to MediChem. The glands secreted inward, into Celeste, not outward into Richard."

Sarah pulls away from him. His trembling fingers rake her arm as he tries to hold onto her. She steps out of reach. "Yes," she says, "as they were supposed to."

He quivers, his eyes narrowed with contempt. He sets his feet wide apart to brace himself, then lunges toward her, only to close as a spasm folds him around his chest and stomach. His eyes open wide with shock and understanding. He crumples slowly at her feet, tearing at his rib cage with his fingers, the skin shredding beneath his nails. A strangled scream escapes him before his eyes roll up into his head.

"I set my glands to secrete outward," Sarah says. She turns away from him. It will be an hour before she can remove the skin safely. She sits beside the tide pool, peering down into the watery world. At the lip of the pool, the hermit crab claws its way out of the water and onto the rock. It races away from her until a wave foams over the rock and sucks the little crab out to sea.



In addition to the stories that have been published here, Kristine Kathryn Rusch has sold short fiction to most of the sf magazines, and a number of anthologies. Her novels have been published in six different languages. The most recent, Heart Readers, appeared from NAL in October. The next, Traitors, already out in Great Britain, will be published in the United States in the fall of 1994.

—E.L.F

Without End

By Kristine Kathryn Rusch

THE SUN, HIGH IN THE HOT August afternoon, sent short shadows across the neatly trimmed grass. A small clump of people huddled in a semicircle,

close but not touching. The coffin, in the center, sat on a platform covering the empty hole.

Dylan placed a rose on the black lacquer surface, and stepped back. A moment, frozen in time and space.

A hand clutched his shoulder. Firm grip, meant as reassurance. He turned. Ross nodded to him, mouth a thin line.

"She was a good woman," Ross whispered.

Dylan nodded. The minister was speaking, but he didn't care about the words, even though the rest of the group strained forward.

"She would have found this silly," Dylan said, and then stopped. Ross's expression had changed from one of sympathy to something else — confusion? Disapproval? Dylan didn't know, and didn't really want to find out. Outside he was calm. Inside he felt fragile, as if his entire body was formed

of the thinnest crystal. One wrong look, a movement, a shadow on the grass, would shatter him into a thousand pieces.

A thousand pieces. Shards, scattered on the kitchen floor. Geneva, crouched over them, like a cat about to pounce. *Look, Dylan, she said. To us, a glass shattered forever. But to the universe, possibilities. A thousand possibilities.*

He stared at the black box. He could picture Geneva inside as she had looked the night before: black hair cascading on the satin; skin too white; eyes closed in imitation sleep. Geneva had never been so still.

He wondered what she would say if she stood beside him, her hand light on his arm, the summer sun kissing her hair.

For just a moment, trapped in space and time.

Stars twinkled over the ocean. Dylan stood on the damp sand, Geneva beside him, her hand wrapped in his and tucked in his pocket — the only warm thing on the chilly beach. Occasionally the wind would brush a strand of her hair across his face. She would push at her hair angrily, but he liked the touch, the faint shampoo smell of her.

She was staring at the waves, a frown touching the corners of her mouth. "Hear it?" she asked.

He listened and heard nothing except the pulse of the ocean, powerful, throbbing, a pulse that had more life than he did. "Hear what?"

"The waves."

In her pause, he listened to them crash against the sand, the heart of the pulse.

"It's so redundant," she said.

"What is?" He turned, his attention fully on her. She looked like a clothed Venus, rising out of the sand, hair wrapped around her, eyes sparkling with unearthly light.

"Sound is a wave, a wave is sound. We stand here and listen to nature's redundancy and call it beautiful."

He leaned into her, feeling her solidness, her warmth. "It is beautiful."

She grinned at him. "It's inspiring," she said, and pulled her hand out of his pocket. She walked down to the edge where the Pacific met the Oregon coast. He didn't move, but watched her instead, wishing he could paint. She looked so powerful standing there, one small woman facing an ocean, against a backdrop of stars.

• • •

He went through her papers for the university, separating them into piles with equations and piles without. The cat sat on the piles without, watching the proceeding with a solemnness that suited the occasion.

Dylan's knowledge of physics and astronomy came from Geneva. He had had three semesters in college, a series called Physics for Poets (hardly any equations), and by the time he met her, most of his knowledge was out of date.

(If you knew so little about women, Geneva once said, I'd be explaining to you what my clitoris is.)

His specialty was philosophy, not so much of the religious type, even though he could get lost in Middle Ages monkish romanticism, but more a political strip: Descartes, Locke, Hegel, and John Stuart Mill. He liked to ponder unanswerable questions. He had met Geneva that way — one afternoon, wind off the lake, Wisconsin in the summer, sitting on the Union Terrace, soaking up the rays and pretending to study. Only he wasn't even pretending, he was arguing basic freshman philosophy: if a tree falls in the forest, and no one hears it, does it make a sound? Geneva had been passing at the time — all legs and tan and too big glasses on a too small nose.

Of course, she said, because it makes a disturbance and the disturbance makes a wave, and that wave is sound.

He didn't remember what he said in response. Something intriguing enough to make her sit and argue until the sunset turned the lake golden, and the mosquitos had driven the other students away.

From that moment on, he and Geneva always talked that way. The philosophy of physics. The physics of philosophy. He got the education without the equations and she, she felt free enough to explore the imaginative side of her science — the tiny particles no one could see, the unified theories, the strings binding the universe.

There's something out there, Dylan, she would say, and it's more than we are.

He knew that, as he held her papers, in her sunlit office just past their den. In her crabbed writing, on those dot-matrix computer sheets, was the secret to something.

If he could touch that, he could touch her. And if he could touch her, he might be able to hold her.

Forever.



The campus bar was full of people impossibly young. Dylan grabbed his frosty mug of beer and sat across from Ross, watching the people intermingle. A different university, a different time. Now the students wore their hair short, and the professors wore theirs long. Dylan sipped, let the foam catch him full on his upper lip, and let the sound of co-mingled voices and too loud music wash over him.

"I worry about you," Ross said. His beer was dark and warm. Its color matched the tweed blend of his blazer. "You've locked yourself up in that house, and haven't gone anywhere in weeks. You don't have to get her papers in order before the end of the term, Dylan. The department just wants them on file."

Dylan shook his head. He wasn't always working. Sometimes he wandered from room to room, touching her clothes, the small sculpture she had brought back from Africa, the pieces of Inuit-carved whale bone they had found in Alaska. "I'll get it done," he said.

"That's not the point." Ross pushed his beer aside, ignoring it as a bit of foam slopped out. He leaned forward, and would probably have touched Dylan's arm if Dylan had been the kind of man who permitted it. "She's dead, Dylan. She's gone. She was a spectacular woman, but now you have to get used to living without her."

Dylan stared at Ross's hand, outstretched on the scarred wooden table. "But what if she isn't really dead? I can feel her sometimes, Ross, as close to me as you are."

"That's part of grieving," Ross said. "You're in the habit of feeling her presence. It's like a ghost limb. You know it was there; you know what it felt like, and you can't believe it's gone."

"No." Dylan's fingers were frozen to the side of the mug. He pulled them away. "She was working on space-time equations, did you know that?"

Ross removed his hand from the tabletop, the odd expression — the one Dylan had seen at the funeral — back on his face. "Of course I knew that. We have to report on her research twice a term."

"She said she was close to something. That we thought about time wrong. That we were looking for beginnings and endings, and they weren't important — and possibly not even probable. She said we were limited by the way we think, Ross."

"It's not a new area," Ross said. A cocktail waitress went by, her tray loaded with heavy beer mugs. Patrons ducked and slipped into each other to stay out of her way. "We've been exploring space-time since Einstein. Geneva was going over very old ground. The department was going to re-examine her position if she hadn't taken a new angle this term."

"Her angle was new." Dylan wiped his hands on his jeans. "It was new from the beginning. She said the problem was not in the physical world, but in the way our minds understood it. She said —"

"I know what she said." Ross's voice was gentle. "It's not physics, Dylan. It's philosophy."

Dylan's entire body tensed. "I didn't change her, Ross. She was thinking this way when we met, when she was an undergraduate. She said that our limitations limited the way we looked at the universe, and she's right. You know she's right."

"We already know about space-time," Ross said. "About the lack of beginnings and the lack of endings. We know all that —"

"But we still think in linear terms. If we truly understood relativity, time would be all encompassing. We would experience everything at once."

"Dylan," Ross said, his voice soft. "Linear time keeps us sane."

"No," Dylan said. "That's why ancient maps had dragons on them, and why no one believed that the world was round. Why Galileo got imprisoned for showing the universe didn't work the way the church wanted it to. You all got upset at her because she was showing you that your minds were as narrow as the ancients', that you have your theories of everything and think you can understand it all, when you don't take into account your own beings. She is doing physics, Ross. You're just too blind to see it."

Dylan stood up. The conversation around him had stopped, and the short-haired, too-young students were staring at him. Ross was looking at his hands.

Dylan waited, breathing heavily, a pressure inside his chest that he had never felt before. Ross finally looked up, his round face empty of all emotion. "The anger," he said. "It's part of grieving too."

They first tried it in her dorm room, shutters closed on the only window, lights off so that the posters of Einstein were hidden, so that only the glow-in-the-dark stars on the ceiling remained. They crowded, side by side, on her

narrow bed, after removing their clothes in the dark. He could smell her musk, feel the warmth of her, but as he leaned into her body, she moved away.

"We can't touch," she said. "Defeats the purpose."

So they lay there, staring up at the bright pink and green stars. And she began speaking softly, her voice no more than a murmur in his ear.

She told him what she liked to do with him, how he tasted, how soft his mouth was, how sensitive his ear. She worked her way down his body, never touching him, only talking to him, until he thought he could wait no longer. And then she was on top of him, wet already, nipples hard, and within a few seconds, they had worked their way to mutual orgasm — the best he had ever had.

She rolled back beside him, and sighed. "Intellectual foreplay," she said. "It really works."

GHOST LIMB. From the moment Ross mentioned it, Dylan felt not one but dozens of ghost limbs throughout the house. Here, in the bedroom, done in designer pink by the previous owner (*all we need is a big bow on the bed, and it'll be perfect — for eight-year-old girls*, Geneva said). Something they were going to remodel when the money allowed. The small side room, well heated, well lit, filled with boxes and scraps of Christmas wrapping: he saw babies in there. First the little boy, cherubic face puckered in sleep. Then a little girl, all wide-eyed and exploring, Geneva in the raw. Future ghosts, possibilities lopped off with the branch that was Geneva.

One night he woke in the dark, confident that he had just missed her. Her scent lingered; the energy of her presence electrified the space. He knew, just a moment before, that she had been there — Geneva, alive, bright, and dancing with ideas.

He got up and went into the living room. The cat followed him, sleepy and dazed. Together they stared out the wide living room window at the street. A long streetlight illuminated a patch of concrete. The light's reflection made the neighboring homes look gray and indistinct. Ghost homes, full of possibilities.

The cat got bored and leapt from the sill, but when Dylan closed his eyes, he could still see her, outlined in red shadow against his eyelids. Even though she was alive, moving, and breathing, the cat too left ghosts.

It flashed across his mind, then, the possibility — and as quickly as it appeared, it was gone. But he knew it was there. He knew he would find it, and then he would no longer be alone, among the ghosts.

"Dammit. The little shit!" Geneva's voice rose on the last syllable, so Dylan knew she wasn't upset, just inconvenienced. He came out of his office to find her standing by the front door, hands against her hips. "Cat's out," she said.

He glanced out the door. The cat sat on the porch huddled against the rain, acting as if the world had betrayed her by getting her wet. He picked her up and carried her inside, closing the door with his foot.

Geneva reached beyond him and locked the bolt.

"There's no need," he said. "Door's closed."

Geneva grinned at him. He dropped the cat and she scampered into the living room, pausing at the end of the couch to clean the vile wetness off her fur.

"Little shit," Geneva said again. She was staring at the cat fondly. "She figured out the door. I came out here in time to see her grasp the knob in both paws and turn."

"Cats can't do that," he said.

"No. Dogs can't. Cats think differently." She kissed him lightly on the nose. "Imagine, being trapped by your mental abilities. A cat can get out of a man-made trap. A dog can't."

Then she smiled as if she had solved the riddle of the universe, went back into her office, and closed the door.

He had chalk on his hands. Facing all those clean, bright students, he felt rumpled and old. Most of them sat before him because his elective brought them three credits. Only a handful liked to grasp the elemental questions as much as he did. He rubbed his hands together, saw chalk motes drift in the fluorescent light.

"The Deists believed in a clockmaker god," he said, leaning against the metal lip of the blackboard. "A god who invented the world, then sat back and watched it play, like a great ticking clock. Jefferson believed in Deism. Some say that was why he became a great political philosopher — he believed

that God no longer intervened in his creation, so the creation had to govern itself."

Dylan paused, remembering Geneva's face when he had discussed this with her, so many years ago. None of the students had her sharpness, her quick fascination with things of the mind. He waited for someone to raise a hand, to ask why those who believed in God the clockmaker didn't believe in predetermination, but no one asked. He couldn't go into his long explanation without prompting, and he didn't feel like prompting himself.

He waved a hand, almost said, "Never mind," but didn't. "Read chapters thirteen and fourteen," he said to those blank faces, "and write me a paper about the contradictions in Deistic philosophy."

"By tomorrow?" someone asked.

"Four pages," he said tiredly. "I'm letting you out early." They looked at him as if he had betrayed them. "You can do four pages. It's not the great American novel."

He grabbed his books and let himself out of the room. The hallway was quiet. It smelled faintly of processed air, and looked cleaner than it did when filled with students. Down the stairs, he heard a door slam. A moment later, a woman appeared on the staircase.

She was tiny, blonde, her hair wrapped around her skull like a turban. When she looked up, he recognized her. Hollings, from psychology.

"What are you pondering so seriously?" she asked.

He studied her for a minute, then decided to answer truthfully. "If God were a watchmaker, like the Deists believed, and if he abandoned his watch, which they did not believe, wouldn't that leave a vacuum? Wouldn't that vacuum have to be filled?"

Her mouth opened slightly, revealing an even row of perfect white teeth. Then she closed it again. "A watchmaker makes a watch and gives it to someone else. Presumably the watch owner maintains the watch."

"That assumes a lot of watches — and a lot of watchmakers."

"Indeed it does." She smiled and walked away.

He watched her go, wondering if the exchange had happened or if he had imagined it. He thought no one besides Geneva would engage in flip philosophies.

Perhaps he was wrong.

Perhaps he had been wrong about a lot of things.



They lay on their backs on the public dock. Below them, Devil's Lake lapped at the wood, trying to reach them. In the distance, they could hear the ocean, shushing its way to shore. The Oregon night was cool, not cold, and they used each other for warmth.

Above them, in the Perseids, meteors showered at the rate of one per minute. Dylan oooed his appreciation, but Geneva remained unusually silent. She snuggled closer and slipped her hand in his. It was thinner than it used to be. He could feel the delicate bones in her palm.

"I wonder," she said, "if that's going on inside of me."

He tensed. She didn't talk about the cancer much, and when she did, it often presaged a deep depression. "You wonder if what's going on inside of you?"

"If somewhere, deep down, two tiny beings are lying on the equivalent of a dock on the equivalent of a lake, watching cells die."

"We're watching history," he said. "The cells are dying inside you now."

"But who knows how long it takes the message to reach those two tiny beings on the lake equivalent? If the sun died now, we wouldn't know for another eight minutes. So to us, the sun would still be alive, even though it was dead."

Her words sent a shudder through him. He imagined himself, talking to her, listening to her response, even though she was already dead.

"We think about it wrong, you know," she said, breaking into his reverie. She was alive and breathing, and snuggled against him. He would know when she died.

"Think about what wrong?"

"Time. We act as if it moves in a linear fashion, straight from here on as if nothing would change. But our memories change. The fact that we have memories means that time is not linear. String theory postulates twenty-five dimensions, and we can barely handle the three we see. We're like cats and dogs and doors."

"And if we could think in time that wasn't linear, how would it be?"

He could feel her shrug, sharp shoulder bones moving against his ribcage. "I don't know. Maybe we would experience everything at once. All our life, from birth to death, would be in our minds at the same time. Only we wouldn't look at it as a line. We look at it like a pond, full of everything, full

of us."

Her words washed over him like a wave, like tiny particles he could barely feel. "Geneva." He kept his voice quiet, like the lapping of the water against the dock. "What are you saying?"

She sat up then, blocking his view of the meteor showers, her face more alive than it had been in weeks. "I'm saying don't mourn for me. Mourning is a function of linear time."

"Geneva," he said with a resolution he didn't feel. "You're not going to die."

"Exactly," she said, and rested her head on his chest.

He pulled open the heavy oak doors and went inside. The chancel smelled vaguely of candle wax and pine branches, even though it wasn't Christmas. A red carpet ran down the aisles between the heavy brown pews. The altar stood at the front like a small fortress. He hadn't been inside a church since he was a teenager, and inside this one now, he felt small, as if that former self remained, waiting for a moment like this.

A ghost limb.

He smiled just a little, half afraid that the minister would find him, and order him out. He sat in a back pew and stared at the altar, hoping the words would come back to him. He ran through the rituals in his mind. Standing up for the opening hymn, watching the choir process, listening to the readings, singing more hymns, and then the offering — and the music.

*...as it was in the beginning
is now and ever shall be
world without end.*

Amen.

Amen.

World without end. He picked up a hymnal, stuck in the back of the pew, and thumbed through it. They listed the Doxology, but not the year it was written, nor the text it was written from. Surely it didn't have the meaning that he interpreted. When it came to the church, the hymn probably meant life ever after. Not time without end. Not beginnings without endings, endings without beginnings. Not non-linear time.

He stood. He had never been in this church before, of that he was certain. So the ghost limb he brought with him applied to the Presbyterian church in Wisconsin, the one in which he was raised, where they too sang the Doxology, where a red carpet ran down the aisle, where the altar rose like a fortress.

Then a memory came, as clear and fresh as a drop of spring water. He couldn't have been more than eight, sitting beside his father on Christmas Eve, listening to the way that God had sent his only son to earth, to have him die for our sins.

And why, Dylan asked, if God had a son, why didn't God have a father?

Because God is the father, his father replied. And no matter how much probing Dylan did, he couldn't get at a better answer

The beginnings of a philosopher — the search for the deeper meanings. Not being satisfied with the pat, the quick, the easy answer. That path had led him away from the church, away, even, from God, and into Geneva, whom he felt understood the mysteries of the universe.

He wouldn't find Geneva here. She felt that the church destroyed thought. He didn't know why he had come looking in the first place.

Bare feet on the deck, cat behind her, hat tipped down over her eyes. Geneva wasn't moving. Geneva, frozen in sunlight.

"How'd it go?" he asked.

The cat leapt off the chair, rubbed her soft fur against his legs, demanding attention. He crouched and scratched her back, all the while watching Geneva.

"They imprisoned Copernicus," she said, not moving. "Newton too. They kicked Einstein out of Germany, and made Socrates drink hemlock."

"It didn't go well, then," he said, sitting on the deck chair beside her.

She tilted her hat up, revealing her green eyes. They shone in the sun. "Depends on your point of view. If they accepted me, I probably wasn't on enough of an edge."

He didn't know how to respond. He was secretly relieved that she hadn't gotten the post-doc. MIT was an excellent school, and an even better research facility, but she would have been in Boston, and he would have been in Oregon. Together only on breaks and during term's end.

"Did you ever think of working on your theories on your own time?" he asked.

"And give those stupid committees the pap that they want?" She sat up then, and whipped her hat off her head, letting her black hair cascade around her shoulders. "You ever think of becoming a Baptist?"

"Geneva, it's not the same."

"It is too the same. People become arbiters of thought. In your area, the church still holds. In mine, it's the universities. This is an accepted area of research. That is not. Scientists are children, Dylan, little precious children, who look at the world as if it is brand new — because it is brand new to them. And they ask silly questions, and expect cosmic answers, and when the answers don't come, they go searching. And if they can't ask the silly questions, if they get slapped every time they do, their searches get smaller, their discoveries get smaller, and the world becomes a ridiculous, narrow place."

She plopped her hat back on her head, swung her tanned legs off the deck chair and stood up. "I can make you come without even touching you. Just the power of our minds, working together. Imagine if the right combination of minds, working together, break through the boundaries that hold us in our place in the universe. We might be able to see the Big Bang at the same moment we see the universe's end. We might be able to see the moment of our birth, this moment, and every other moment of our lives. We would live differently. We would be different — more than human, maybe even better than human."

Her cheeks were flushed. He wanted to touch her, but he knew better.

"It's steam engine time, that's all it is," she said. "A handful of minds, working together, change our perception of the world. Does a tree falling unobserved in the forest make a sound? Only if we believe that a tree is a tree, the ground is the ground, and a sound a vibration. Only if we believe together."

"And someone who doesn't believe gets denied a post-doc," he said.

"It's the twentieth century equivalent of being forced to drink hemlock," she said, and flounced into the house.

He hadn't turned on a light yet. Dylan sat in the dark, watching the fuzzy grayness slip over the entire living room. The cat slept on a corner of the couch. Geneva's papers were piled on the coffee table, on the end tables, in the corner. He had been sitting in the dark too much, thinking perhaps that

was when her ghost would arrive.

A light flipped on in the kitchen and he jumped.

"Jesus Christ, don't you use lights anymore?"

Ross. Ross had let himself in the back door. Dylan took a deep breath to ease the pounding of his heart. He reached up and flicked on a table lamp.

"In here," he said.

Ross came through the dining room door, and stared at the living room. The cat curled into a tighter ball, hiding her eyes from the light.

"We need to get you out of here," he said. "How about a movie?"

Dylan shook his head. He didn't need distractions now. He felt like he was very close. Her papers held little illuminating, but his memories — they were like a jigsaw puzzle, leaving gaps, creating bits of a picture. As if she had given him the answer out of order, and he had to piece it together. Alone.

"Okay," Ross said, slumping into the sofa. "How about a beer?"

The cat sat up and looked at Ross, then jumped off the couch. Dylan wished he could be as rude.

"I want to be alone, right now," he said.

"You've been alone since the end of August. Lock yourself up in here long enough, and you'll never get over her."

"I don't want to get over her," Dylan said.

Ross shrugged. "Wrong choice of words. You got your own life, and the last thing Geneva would have done was to want you to stop living because of her."

"I'm still living," Dylan said. "I'm still thinking."

"Not good enough." Ross stood, grabbed Dylan's coat off the back of a chair, and held it out.

Dylan looked at it and sighed. Then he rubbed a hand over his face. "Sit down," he said.

Ross sat, still holding Dylan's coat. He rested on the edge of the couch, as if he were about to jump up at any point.

"When Geneva and I went to Alaska, some friends of ours took us to a glacier. We went up in the mountains, saw this fantastic lake, filled with ice bergs, and at the edge of the lake, the tip of the glacier. A boat took us right there, and we could see geologic history being made."

"I remember," Ross said. His tone was dry — *get to the point, Dylan* — and he clutched the coat tighter. "You told me when you got back."

"But I didn't tell you about the exhibit. One of those museum things, where they showed you how the glacier has traveled in the last hundred years or so. It receded so much that the point where we stood at the edge of the lake had been glacier only 150 years before. That sucker was moving fast. Geneva stayed inside, where it was warm, but I went back out, and put my feet where that glacier had been a hundred years ago. And if I closed my eyes, I could feel it. I knew what it was like in the past; it was as if it was still there, only half a step away, and I could get to it, if I took the right step."

Ross leaned back on the couch, the coat covering him like a blanket. "When Gary died," he said, "I used to go in his bedroom and pick up one of those models he worked so hard on. And if I held it just right, at the right time of night, I could feel his little warm hand under mine. Dinah would just watch me, she wouldn't say anything, and I used to think she was jealous — Gary shows up for Ross, but not me kinda thing. But she was worried about losing me too. She was afraid I would never come out of it. I still miss him, Dylan. I see another man with a six-year-old boy and it knocks the wind out of me. But I survived, and I moved on, and we have Linny now, and she's precious too."

"You're telling me this is another phase?"

"No." Ross was twisting the coat sleeve in his hands. "I'm telling you I finally know how she felt. Dylan, give yourself a chance to heal. Geneva will always be part of your past, but not part of your future."

"What makes you so sure," Dylan asked, "that they're all that different?"

GENEVA RESTED on her stomach, knees bent, feet crossed at the ankles. She held a blade of grass between her fingers, and occasionally she would blow on it, trying to make a sound. The summer sun was hot, and the humidity was high. Wisconsin in the summer. Dylan couldn't wait to leave.

"Did you know that Mormons marry not just for life, but for all eternity?"

"You saying we should incorporate that into our vows?" Dylan rolled on his back, feeling the grass tickle his shoulders.

"I wonder if we won't be doing that already." She put her thumbs to her mouth, a blade of grass stretched between them. As she blew, it made a weak raspberry sound. "I mean, if you look at an event like you look at a pebble,

falling into a pond, the action will create ripples that will stretch out from the pebble. Each event has its own ripple, independent of another ripple — "

"Unless they collide," Dylan said with a leer.

"Unless they collide," she repeated, ignoring his meaning. "But who is to say that once a pebble gets dropped, you can't go back to the same spot and watch it get dropped over and over again. You can in video tape, why not in life?"

"Because life doesn't have rewind and fast forward," he said.

"Who says? Time is just perception, Dylan."

He rolled to his side, kissed her bare shoulder, and draped an arm across her back. From his perspective, the blade of grass between her fingers looked ragged and damp. "So you're saying you might perceive that you're marrying me for eternity, and I might perceive that I'm marrying you for Wednesday. So I could turn around and marry someone else for Thursday — "

"Only if you get a divorce first." She threw away the blade of grass. "Legalities, remember? Other people's perceptions."

"— and you would still think you're married to me forever, right?"

"I think I heard about a court case like that," she said, leaning her head into him. Her hair smelled of the sun. He kissed her crown.

She turned, so that she was pressed flush against him, warm skin against his. "But when you say you'll love me for eternity, you mean it, right?"

He leaned in, his face almost touching hers. He couldn't imagine life without her. "When I say I'll love you forever," he said, "I mean it with all my heart."

The dean's office was on the second floor of Erskine Hall, where the senior professors resided. Dylan used to aspire to walking that staircase every day. Then he would have had tenure, been able to stay in Oregon until he retired. He used to imagine that he and Geneva would buy a beach house. They would work in the city, then drive the hour to the beach each weekend. They would sit outside, on a piece of driftwood, staring at the point where the sky met the ocean. Geneva would contemplate the universe, and Dylan would contemplate her.

Dreams. Even dreams were ghost limbs. Moments, frozen in time and space.

He walked down the narrow corridors, past the rows of crammed offices,

filled with too many books and stacks of student papers. The dean's office was a little larger, and it had a reception area, usually staffed by upperclassmen. This time, though, the receptionist was gone.

He knocked on the gray metal door. "Nick?"

"Come on in, Dylan, and close the door."

Dylan did as he was asked, and sat on the ancient upholstered chair in front of Nick's desk. Students probably felt like they'd walked in hell's anteroom when they came here. Everything was decorated early '70s, in browns and burnt orange.

Nick was a white-haired man in his late fifties, face florid with too much food and stress. "I'm sorry about Geneva," he said. "She had spirit. I never expected to outlive someone like her."

Dylan made himself smile. "My mother said she was like a flare, brief but beautiful."

"You don't believe that," Nick said.

Dylan took a deep breath. "You didn't call me in here to talk about Geneva."

"Actually, I did. Indirectly." Nick stood up, and shoved his hands in his pockets, stretching out his pants like a clown's, and making his potbelly poof out. Geneva used to call him Chuckles when he did that, a comment made all the better by the fact that the gesture meant Nick was going to say something difficult. "Word is that you've been acting a bit erratic lately. Letting classes out early, missing meetings, spouting spontaneous philosophy in the halls."

"Doesn't sound like the crime of the century," Dylan said, then bit his lip. Defensive. He couldn't get defensive.

"No, and it's not even all that unusual — except for you, Dylan. You were always consistent and quiet. I'm not saying you're doing anything wrong, but your wife just died. I wanted you to take the term off, but you insisted on working, and I'm not sure that was such a good idea."

Dylan stared at him for a moment, uncertain how to respond.

It begins with little complaints, Geneva once told him. Maybe your clothes are a little unusual, or you don't conduct class according to the right methods. Then, one day, you wake up and find you've been imprisoned for your beliefs.

He opened his mouth, closed it again, and thought. The classes meant

nothing this term. The students, merely full-sized reminders of how much time had passed since he had sat in their chairs, since he had met Geneva.

"You're right," he said. "I think I should take a leave of absence, maybe come back next fall term."

Nick turned, pulled his hands out of his pockets, and frowned. Obviously he hadn't expected Dylan to acquiesce so easily. "Sure it won't leave you alone too much?"

Dylan smiled and shrugged. "I'm not sure I'm really alone now," he said.

Toward the end, she had shrunk to half her size, her skin so translucent, he could see her veins. The hospital room had deep blue walls, a bed with restraints on it, and a television perched in the corner. The restraints were down, the television off, and the window open, casting sunlight against the awful blue.

Dylan sat beside the bed every day, from the moment visiting hours began until the moment they ended. At noon on August 23rd, she opened her eyes and found his. Her gaze was clear for the first time in three days, for the first time since he had brought her to the hospital.

"Dylan?" Her voice was no more than a rasp.

He took her too-small hand. It no longer fit just right in his. "I'm here, Geneva."

"You know those two tiny beings on the lake equivalent?" Each word was an effort. He leaned forward so that he could hear her. Her grip was tight in his. "I think in about eight minutes, they're going to see a supernova."

She closed her eyes. He couldn't hear her breathing. He pushed the nurse call button, once, twice, then three times.

The grip in his hand tightened. Geneva was looking at him, a small smile on her face. "Don't mourn, Dylan," she said. "Forever, remember?"

"I remember," he said, but by that time, she had loosened her grip on his hand. The nurses came in, with their equipment and needles, pushing him aside. He watched as they checked her, as they looked under her closed eyelids, and felt for her pulse. One of them turned to him, and shook her head. He shoved his hands in his pockets and walked out of the room, a much poorer man than he had been when he entered.

On All Hallow's Eve, he packed his car to the light of the single

streetlight. During the afternoon, he had taken the cat over to Ross's, explaining that he was going on a short trip, and wasn't sure when he would be back. He waited until dark, packed the car, and headed west.

He had awakened with the idea, the jigsaw puzzle complete in his mind. He knew how to find her, and how they could be together, forever, as she had said. As he drove over the Coast Range, the puzzle became clearer; the answer seemed right. Steam engine time, she had said. But who would have thought that a philosophy professor would be the first to ride the rails?

Geneva had. She knew that philosophers were used to broad concepts of the mind.

He pulled into the public beach at Lincoln City, grabbed a blanket and a cooler from the back of the car, and walked to the loose sand. He was careful to sit on a driftwood log, untouched by high tide.

Geneva called the point where the sea met the sky infinity. In the dark, it seemed even more vast than it did in the day. He put the blanket on the sand, set the cooler to the side, and leaned on the driftwood log.

He managed to arrive on the dark side of the moon. The night sky was full of stars, points of light, points of history. To their friends, these stars could be dead, but to him, they lived, and twinkled, and smiled for one last show. His mind could grasp each point of light, see it for what it was, and for its pattern, feel the backdrop of blackness against it and beyond.

The ocean spoke to him in its constant roar, and beneath it, he heard Geneva's voice talking about sound and waves, waves and sound. *Inspiring*, she had said, and so it was.

The edge of the universe was just beyond his imagination. The whole universe was within his grasp. He didn't want to see the big bang or the end of everything. He didn't want to see all of time, nor all of time and space. Only those points of light that were Geneva, from her birth to her death and back again. He wanted to hold all of those points in his mind at the same time, to be lying with her on the dock at the same time he sat here alone, to be holding her hand in the hospital while they played at intellectual foreplay in her dorm. He wanted his mind to be like the sky, holding history, the future, and infinity at the same time.

Geneva.

She was out there, in time and space, each moment of her existence a moment for him to hold.

He cast his mind into the inky blackness —
— and felt the barriers break.



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David Brin has won the Hugo, Nebula, Locus, and John W. Campbell Awards for his novels and short stories, which include Startide Rising, The Uplift War, The Postman, and his ecological thriller, Earth. Bantam published his most recent novel, Glory Season, in 1993, and he is currently at work on Brightness Reef. He lives with his wife Cheryl and son Benjamin in Southern California.

About the story, David writes, "It's actually my fourth recent story in which pregnancy plays a role (e.g. 'Dr. Pak's Preschool' and 'Piecework')...any coincidence that our first child was born in the middle of the series? The virtual reality connection is obvious, but I also wanted to comment on the popular idea — which I think is wrong — that brain-computer interfaces will seem realistic to people. Too much of what we are is tied up in our bodies, our viscera, the 'meat.' VR will never become truly vivid 'till you find a way 'to bring the meat along.'"

NatuLife™

By David Brin

I KNOW, THINGS TASTE BETTER fresh, not packaged. Hamburger clots your arteries and hurts the rain forest. We should eat like our stone age ances-

tors, who dug roots, got lots of exercise, and always stayed a little hungry. So they say.

Still, I balked when my wife served me termites.

"Come on, sweetheart. Try one. They're delicious."

Gaia already had the hive uncrated and set up by the time I came home. Putting down my briefcase, I stared at hundreds of the pasty-colored critters scabbling under a plastic cover, tending their fat queen, devouring kitchen trimmings, making themselves right at home in my home.

Gaia offered me a probe made of fine-grained pseudowood. "See? You use this stick to fish after nice plump ones, like chimpanzees do in the wild!"

I gaped at the insect habitat, filling the last free space between our veggie-hydrator and the meat-sublimate racks. "But...we agreed. Our apartment's too small..."

"Oh, sweetie, I know you'll just love them. Anyway, don't I need protein and vitamins for the baby?"

Putting my hand over her swelling belly normally softened any objections I might have. Only this time my own stomach was in rebellion. "I thought you already got all that stuff from the Yeast-Beast machine." I pointed to the vat occupying half of our guest bathroom, venting nutritious vapors from racks of tissue-grown cutlets.

"That stuff's not *natural*," Gaia complained with a moue. "Come on, try the real thing. It's just like they show on the NatuLife Channel!"

"I...don't think..."

"Watch, I'll show you!"

Gaia passed the stick-probe through a sealed hatch to delve after six-legged prey, her tongue popping out as she concentrated, quivering with excitement from her red ponytail down to her rounded belly. "Got one!" she cried, drawing a twitching insect out the hatch and to her lips.

"You're not seriously..." My throat stopped as the termite vanished, head first.

Bliss crossed Gaia's face. "M-m-m, crunchy!" She smacked, revealing a still-twitching tail.

I found enough manly dignity to raggedly chastise her.

"Don't...talk with your mouth full."

Turning away, I added — "If you need me, I'll be in my workout room."

Gaia had rearranged our sleep quarters again. Now the cramped chamber merged seamlessly with a tropical paradise, including raucous bird calls and mist from a roaring waterfall. The impressive effects made it hard navigating past the bed, so I ordered the hologram blanked. Silence fell as the vid-wall turned gray, leaving just the real-life portion of her pocket jungle to contend with — a tangle of potted plants warrantied to give off purer oxygen than a pregnant woman could sniff from bottles.

Wading through creepers and mutant ficuses, I finally found the moss-lined laundry hamper and threw in my work clothes. The fragrant Clean-U-Lichen had already sani-scavenged and folded my exercise togs, which felt warm and skin-supple when I drew them on. The organo-electric garment rippled across my skin as if alive, seeming just as eager for a workout as I was.

I'd been through hell at the office. Traffic on the commuter-tube was

miserable and the smog index had been red-lining for a week. Termites had only been the last straw.

"Let's go," I muttered. "I haven't killed anything all day."

Long Stick spotted a big old buck gazelle.

"It limps," my hunting partner said, rising from his haunches to point across a hundred yards of dry savannah. "Earlier, it met a lion."

I rose from my stretching exercises to peer past a screen of sheltering boulders, following Long Stick's gnarly arm. One animal stood apart from the herd. Sniffing an unsteady breeze, the buck turned to show livid claw marks along one flank. Clearly, this prey was a pushover compared to last Sunday's pissed-off rhino. The virtual reality machine must have sensed I'd had a rough day.

My hands stroked the spear, tracing its familiar nicks and knots. An illusion of raw, archetypal power.

"The beaters are ready, Chief," my hunting partner said. I nodded.

"Let's get on with it."

Long Stick pursed his lips and mimicked the call of a bee-catcher bird. Moments later, the animals snorted as a shift in the heavy air brought insinuations of human scent. Another hundred yards beyond the herd, where the sparse pampas faded into a hazy stand of acacia trees, I glimpsed the rest of our hunting party, creeping forward.

My hunters. My tribe.

I was tempted to reach up and adjust the virtu-reality helmet, which fed this artificial world to my eyes and ears...to zoom in on those distant human images. Alas, except for Long Stick, I had never met any of the other hunters up close. Good persona programs aren't cheap, and with a baby coming, there were other things for Gaia and me to spend money on.

Yeah, like a crummy termite hive! Resentment fed on surging adrenaline. *Never trust a gatherer.* That was the hunters' creed. *Love 'em, protect 'em, die for them, but always remember, their priorities are different.*

The beaters stood as one, shouting. The gazelles reared, wheeling the other way — toward us. Long Stick hissed. "Here they come!"

The Accu-Terrain floor thrummed beneath my feet to the charge of a hundred hooves. Sensus-Surround earphones brought the stampede roar of panicky beasts thundering toward us, wild-eyed with ardor to survive.

Clutching my spear in sweaty palms, I crouched as graceful animals vaulted overhead, ribcages heaving.

Meanwhile, a faint, subsonic mantra recited. *I am part of nature...one with nature...*

The young, and breeding females, we let flash by without harm. But then, trailing and already foaming with fatigue, came the old buck, its leap leaden, unsteady, and I knew the program really was taking it easy on me today.

Long Stick howled. I sprinted from cover, swiftly taking the lead. The auto-treadmill's bumps and gullies matched whatever terrain the goggles showed me, so my feet knew how to land and thrust off again. The body suit brushed my skin with synthetic wind. Flared nostrils inhaled sweat, exhilaration, and for a time I forgot I was in a tiny room on the eightieth floor of a suburban Chitown con-apt, surrounded by fifty million neighbors.

I was deep in the past of my forebears, back in a time when men were few, and therefore precious, magical.

Back when nature thrived...and included us.

Easy workout or no, I got up a good sweat before the beast was cornered against a stand of jagged saw grass. The panting gazelle's black eye met mine with more than resignation. In it I saw tales of past battles and matings. Of countless struggles won, and finally lost. I couldn't have felt more sympathy if he'd been real.

My throwing arm cranked and I thought — *Long ago, I'd have done this to feed my wife and child.*

That was then. As for here and now?

Well...this sure beats the hell out of racquetball.

Mass-produced con-apt housing lets twelve billion Earthlings live in minim decency, at the cost of dwelling all our lives in boxes piled halfway to the sky. Lotteries award scarce chances to visit mountains, the seashore. Meanwhile, Virtuality keeps us sane within our hi-rise caves.

On my way to shower after working out, I saw that Gaia's private VR room was in use. Impulsively, I tiptoed into the closet next door, feeling for the crack between stacked room units, and pressed my eye close to the narrow chink of light. Gaia squatted on her treadmill floor, shaped to mimic a patch of uneven ground. Her body suit fit her pregnant form like a second skin,

while helmet and goggles made her resemble some kind of bug, or star alien. But I knew her scenario, like mine, lay in the distant past. She made digging motions with a phantom tool, invisible to me, held in her cupped hands. Then she reached down to pluck another ghost item, her gloves simulating touch to match whatever root or tuber it was that she saw through the goggles. Gaia pantomimed brushing dirt away from her find, then dropping it into a bag at her side.

Sometimes, eavesdropping like this, I'd feel a chill wondering how odd I must look during workouts, leaping about, brandishing invisible spears and shouting at my "hunters." No wonder most people keep VR so private.

Gaia tilted her head as if listening to somebody, then laughed aloud. "I know! Didn't the two of them look funny? Coming home all proud with that skinny little squirrel on a stick? Such great hunters! That didn't stop them from gobbling half our carrots!"

Naturally, I couldn't see or hear Gaia's companions — presumably other women gatherers in the same simulated tribe she had been visiting since years before we met. She stopped again, listening, then turned around. "It's your baby, Flower. That's okay, I'll take care of him." She laughed. "I need the practice."

I watched her gently pick up an invisible child. Her body suit tugged and contracted, mimicking a wriggly weight in her arms. Awkwardly, Gaia cooed at an infant who dwelled only in a world of software, and her mind. I crept away to take a shower, at once ashamed of spying and glad that I had.

Toweling my wet hair, I entered the bedroom to find the wall screen tuned to Mother Earth Channel Fifty-Three — a green-robed priestess reciting a sermon.

"...returning to more natural ways does not mean having to sacrifice all modern...."

Gaia emerged from her closet wearing a bright cotton shift over her blossoming figure, sorting through a cloth bag slung over one shoulder. "Where are you going?" I tried asking, but the life-sized matron on the wall was doubly loud.

"...we should eat like our ancestors, who caught meat but twice a week or so. All other food was gathered by skilled women..."

I tugged Gaia's elbow, repeating my question. She startled, then smiled at me. "NatuBirth class, Sweetheart. Lots to learn before I'm ready. Just two

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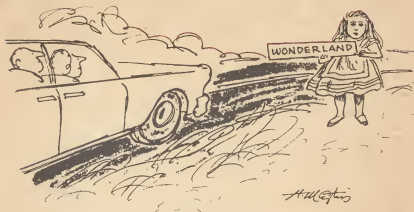
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months left, you know."

"But I thought..."

"...Fats and sweets were rare back then, hence our cravings. Now self-discipline must take the place of scarcity — "

I shouted. "Computer! Shut off that noise!"

The priestess's mouth moved silently. Gaia looked reproving.

"I don't like being left out," I complained.

Gaia stroked my face. "Oh Toms, don't be off-baud. We're just covering nest and birthing methods, tonight. A man would be bored."

Hm. Maybe. *Femismo* says there are some things men can't understand. Quite a shift from the way old-fashioned feminism preached sharing all life's duties. My dad used to proudly tell of cutting the cord, the day I was born. I kind of liked that idea, but now they call it unnatural. Birth has always been a female ritual. That's what they say.

"You just stay home, be good, and ..." Gaia pressed against me, affectionately, her eyes lighting. "You had a good hunt, didn't you? I can tell. It always leaves you frisky."

I pulled away. "Mph. Go to class, then. I'll be okay."

She tiptoed to kiss my chin. "Look by the console for a present...something to show I haven't forgotten you." Gaia blew another kiss from the front door, and was gone.

I wandered over to the master house controller and picked up a brightly colored program plaq, still tacky where Gaia must have peeled off a discount sticker from the NatuLife Store. *Something for the Hunter*, the title read, and I snorted. Right. Something to keep the man of the house distracted beating drums with a bunch of make-believe comrades, while a wife's attention turns to serious matters — nesting and the continuity of life. The blyware gift might have been meant as a loving gesture, but right then it made me feel superfluous, more left out than ever.

Sliding the plaq into the console, I accidentally brushed the volume knob and the booming voice of the priestess returned.

"...must face the fact that Earth's billions won't accept returning to nature by scratching mud and sleeping on dirt floors. We must learn new ways, both more natural and smarter..."

I snickered at that. Funny how each generation thinks it knows what "smarter" means.

• • •



LONG STICK greeted me with a sweeping bow, at once both sardonic and respectful. "Welcome back, oh Great Chief."

"Yeah, yeah," I muttered at my simulated sidekick.

"Okay, I'll bite. What's different, this time?"

Everything seemed less real here in the living room, with my virtuality helmet and body suit left hanging in the closet. The familiar, primeval forest of my private world now cut off sharply where the vid-wall met the couch. Yet, I could have sworn my ersatz companion seemed subtler, *warmer*, somehow.

"The flint-smiths are ready to show their wares, chief."

"The who...?" I began. But Long Stick simply turned to begin striding down a nearby path. The living room had no treadmill-floor, so I stood still, watching Long Stick's buckskin-draped form plow past trees and boulders and down a series of switchbacks. A rhythmic sound grew steadily louder — a tinny clatter of brittle objects colliding and breaking. Finally, we reached a sandy streambed where several figures could be seen sitting on logs, hammering stones together.

Oh, yes. Flint-smiths. NatuLife stocked countless "You-Are-There" programs in all the ancient arts, from bronze casting to automobile design. With our shared interest in the Neolithic, Gaia had cleverly bought a stone age simulation the computer could fit right into my private world, to help me pass an evening while she trained for motherhood.

Okay, I sighed. *Let's get on with it.*

A youngster with a wispy beard noticed us, stopped hammering, and nudged the others — a weathered old man and a sturdy-looking fellow with one leg much shorter than the other. The smiths rose and bowed respectfully. Naturally, these wouldn't be full scale sim-personas, like Long Stick, but animated actors in a limited scenario.

"We have worked those chert cores you traded from Seacliff Tribe, oh Chief," the oldest one said, lisping through gaps in his teeth. "Would you like to see?"

I shrugged. "Why not?"

He spread a fur and began laying out an assortment of neolithic cutlery, glinting under ersatz sunshine. There were spearheads, axes, burins and

scrapers — plus other tools I couldn't identify offhand — each item the product of at least a hundred strokes, skillfully cleaving native rock into shapes useful for daily life. A prehistoric kitchen, armory and machine shop, all in one. The smiths offered to let me feel an edge. It was disturbing to watch the computer manifest an image of my own hand, holding an object I couldn't feel. I resolved to try again later, replaying the scenario with body gloves on.

"Well, it's been interesting," I said after a while, feeling fatigued. "But I think that's enough for n — "

A high shout broke in. Everyone looked past my shoulder, but the scene remained obstinately riveted until a new figure entered view from the left. Shorter, slimmer than the others, this one strode with a springy, elfin gait, clothed in the tunic and leggings of a hunter. The newcomer carried a bundle of slender wooden saplings the right size for fashioning spears. Only when these were dumped with a clatter did I note with surprise that this hunter was female.

"Ho, Chief," she greeted me, acknowledging Long Stick with a nod.

My companion leaned over and muttered, "This is Ankle-of-a-Giraffe, daughter of Antler and Pear Blossom. She is one of the beaters in the hunt."

"That's what I want to talk to you about," the young stone-ager said, planting fists on her hips. She was lithe and a trifle lean for my tastes — as well as being smudged from head to toe — but she made eye contact in a bold, provocative way. "I'm sick of just beating, Great Chief. I want to be in on the kill. I want to learn from you two."

The stone-smiths hissed surprise. Long Stick rumbled. "Ankle! You forget yourself!"

The girl bowed submissively, yet her eyes held fierce determination. She seemed ready to speak again when I shouted.

"Freeze frame!"

All action halted, leaving the "tribesmen" locked in time. A blue jay hovered in suspended flight across the gully while I wrestled with confusion. It wasn't the *idea* of a female hunter... plenty of tribes allowed it, according to tradition. But why complicate matters with such a player right now, just as the simulation seemed about to end? What did it have to do with prehistoric tool-making?

"Computer. This isn't just a packaged you-are-there, is it?"

"No it is not. These are fully autonomous persona programs, operating

stochastically in your private sim world."

So, Gaia had been generous after all! Long Stick was no longer my only, full-scale companion. But how could she afford...

"In addition, core memory has been enhanced to allow up to five flexible personae at any one time."

"Oh, I get it."

Gaia must have needed more memory for her own programs, the midwives and doulahs and other helpers she'd need when the baby came. The expense was already budgeted. No wonder she could throw in a few extra playmates for me, purchased at discount. After wondering for a minute whether to feel hurt, pleased, or amused...I finally decided it didn't really matter. I hesitated, then decided.

"Computer, hold simulation for transfer to my rec room."

Minutes later, fully suited for virtuality, I held one of the tool-knappers' new flint knives in my hands, each curve and serrated edge conveyed by subtle, electrochem gloves. The stone-smiths seemed pleased by my admiration. It was a good knife, of the finest obsidian, bound to an ivory handle carved with figures of running horses. Despite not being real, it was the most splendid thing I had ever owned.

The treadmill worked beneath my feet, mimicking movement as Long Stick and I finally departed the neolithic factory, heading toward Lookout Point to observe migratory herds of wildebeest and eland crossing the plain. Along the way, we passed the young beater, Ankle, squatting by the river bank where she'd been banished by Long Stick for impertinence. Tying stone points to spear-shafts, tightening the leather thongs with her teeth, she looked up as we passed by, unrepentant, a light of challenge in her eyes.

I paused, then turned to Long Stick. "We could use a scout to carry messages. Next hunt, bring this one along."

My simulated friend returned one of his sharp looks, but nodded silently. Ankle turned away, wisely hiding a jubilant grin.

I emerged from my primeval world to find Gaia already home from her class, nestled in our small, darkened bedroom. I slipped between the sheets quietly, but soon felt her hand upon my thigh. "I've been thinking about you," my wife whispered, her breath warm on my ear.

Pregnancy doesn't exactly mean no sex. Doctors say it's all right if you're careful.

In fact, it can be much better than all right. Gaia was very skilled.

The buffalo groaned, mired in muddy shallows with five spears in its flank. I commanded no more thrown.

Ankle protested, waving her javelin. "Why not finish it off?"

"Because the Chief said no!" Long Stick snapped. But I gestured for patience. With Ankle for an apprentice, I now appreciated the adage — *You never really know something til you teach it.*

"Think. What happens if he falls where he stands?"

She eyed the panting beast. "He'll fall into the riv...Oh! We'd lose half the carcass." Ankle nodded soberly. "So we try getting him ashore first?"

"Right. And quickly! We don't want him suffering needlessly."

Several tribesmen made pious gestures in agreement. Through ritual, hunters like these used to appease the spirits of beasts they killed, which made me wonder — would modern folk eat so much meat if they had to placate the ghost of each steer or chicken? My time in a simulated stone age hasn't made a vegetarian of me, but I better appreciate the fact that meat once lived.

Long Stick called for rope. Bearing coils of braided leather, we worked toward the bull from three sides. The treadmill imitated slippery mud beneath my feet, while the body suit tickled nerves so that I felt hip-deep in slimy water. Electronically-stirred receptors in my nose "smelled" the creature's blood and defiance, above the rank swamp stench. It was hard work, floundering toward our prey. Harder and more varied than lifting weights in a gym, and more terrifying. The buffalo shifted left and right, bellowing and threatening with its horns.

Everything had seemed more vivid since Gaia bought that extra memory, including this beast's hot zeal to survive. "Watch out!" Ankle cried as it lunged. I swerved and felt a wall of fur and muscle glance off my shoulder, rushing through space I'd just occupied. Teetering in the mud, I glimpsed a snaking lasso chase the old bull, landing round its neck.

"Got him!" Long Stick cried.

"My turn!" called a higher voice. Ankle cast her lariat — only to fall short as the angry beast thrashed aside.

"Wait!" I cried when she plunged after it. Too late, I watched the girl vanish beneath the frothy, scummy surface.

"Ankle!"

Suddenly, I was too busy dodging to worry about my young aide. Sharp horns flashed viciously. While I knew the computer wouldn't kill me, other slipups in the gym had left me bruised for weeks.

She's only a program, I told myself, backpedaling from a roaring, shaggy face the size of a small pickup. *Programs can take care of themselves.*

"Yip-yi-i-yip!"

The cry coincided with a sudden change in the creature's bellows. It whirled and I blinked in astonishment. The young hunter, Ankle, had clambered on its back! Dripping water and marsh reeds, she held tightly to its mane and slipped her noose over the shaggy head, while the bull snorted, wild-eyed and convulsing. Others joined her exultant shout as ropes pulled taut from three directions.

Resignation seemed to settle over the animal then, as it let itself be drawn toward dry land. Two meters...three...

Suddenly, in one last, desperate heave, it reared. Ankle flew off, arms whirling, to splash near the bull's stomping hooves.

With a shout I dove toward her.

Or tried to. Today's virtuality tech can't fake *buoyancy*, so the machine wouldn't cooperate. The body suit did let me flounder forward, though, evading the thrashing horns while flailing underwater in search of my apprentice. Frantic seconds passed...and finally I felt the touch of a slim arm! A small hand closed vice-like round my wrist as I yanked back hard...just as the buffalo pitched over, toppling with a mighty splash on the spot where Ankle had lain.

We made it ashore downstream from where the tribe was already commencing the frenetic ritual of butchery. In olden times, a kill like this came at best once a month, so these hunters sang their joy to the spirits of water, earth and sky. But the artful ceremony was wasted on me as I slogged uphill, feeling pressure leave my cramping legs exactly like water slipping reluctantly aside. The weight in my arms seemed all too real as I lowered Ankle to a patch of grass.

This was an awful lot of trouble to go to, just for a piece of software. I might have rationalized that good persona programs are expensive, but the thought didn't cross my mind as I hurriedly checked Ankle's breathing. Pale, mud-grimed from crown to toe, she gave two sudden, wheezing coughs, then

revealed twin flashes of abalone blue as her eyes popped open. Ankle gasped a sudden, stricken sob and threw both arms around my neck.

"Urk!" I answered. Never before had my exercise togs yanked me down so, into such a flood of sensations. Pain lanced my palms from impacting pebbles. Sunlight spread heat across my mud-splattered back. Then there was the press of her warm body, clinging beneath mine, much more cushiony, in places, than I had imagined.

Soon I realized Ankle no longer clung to me for comfort. She was moving, breathing in ways having little to do with reassurance. I grunted surprise for a second time, and reached up to pry loose her arms. "Stop simulation!" I shouted.

My last glimpse, before yanking off the helmet, was of Ankle lying there, muddy all over, wiry-strong and hunter-attired, yet suddenly utterly female, gazing at me both worshipful and willing.

She was only software — bits of illusion on a silicon chip. Besides, I barely knew her.

She was already the second most desirable woman I had ever known.

Now get this, I love my wife. Always figured myself one of those lucky bastards whose woman understands him, inside and out, and despite that thinks the world of him.

So, I figured, there's got to be a mistake here!

Trembling, I peeled off my sweaty body suit and stumbled into the shower, wondering, *How am I going to explain this to Gaia?*

Then, while soaping myself, I thought, *What's to explain? I didn't do anything!*

Rinsing, I pondered, *And if I had? Would it've been adultery? Or an exotic form of masturbation?*

I recall how Mom blithely tolerated Dad's collection of mildly erotic magazines, apparently quite unthreatened by his harmless, private fantasies. Nor did Gaia ever seem to consider my electronic *Playboy* subscription a rival. Sometimes she would dial it up herself....*"for the articles."* Still, if a certain amount of healthy, visually stimulated autoeroticism was okay, I also knew it would hurt her terribly if I ever had a real-life affair.

So...what had nearly taken place in my VR gym? The experience seemed to fall somewhere between boffing a co-ed and an encounter with an

inflatable doll.

Too bad they never produced that sci-fi gimmick, a direct computer-mind interface. Then I might have dismissed any sim-adventure as something purely mental. But so much of what we are and do is tied up in our bodies...the nerves, hormones and muscles. To have a truly vivid experience, you must take your meat along.

With flesh taking part, virtuality can mimic any surface. I've crawled across grass and tide pools and steaming sands while stalking prey.

But simulating a woman...?

"Hi-tech marches on, but this is ridiculous!" I laughed, drying under a blast of warm air, then put on a terry cloth robe and went out to tell Gaia everything. I had last seen my wife in the nursery, where she had been humming while sorting things for the baby, and cheerfully wished me a "good hunt."

Gaia wasn't there, but I felt a warm glow just looking around the little room, its walls decorated with hologram mobiles and floating planets. I had installed most of the nursery equipment myself, including the bottom-baster, with its simmering vat of Liquid Diaper. The flotation crib would be programmed to mimic my wife's heartbeat and other rhythms, comforting baby's first weeks with sensations familiar from the womb.

This was where my life was anchored, I thought. Not in some make-believe hunting band that femismo psychologists thought every modern man required. *My family*. For all its pollution, crowds and exhaustion, the real world was where you lived real life.

"Gaia?" I asked, searching the living room. "You'll never guess what happened..."

She wasn't there either. I tried the kitchen, throbbing with busy, scrabbling sounds of captive insects. Still no sign of her.

Funny, I thought. She hadn't said anything about another NatuBirth class tonight.

"Computer, did my wife leave a message where she was going?"

The control voice answered. *"Your wife hasn't left the apartment. She is in her Virtuality Room."*

"Ah...of course. Her tum. Must have gone in while I showered."

I sat on the couch gingerly, still feeling tremors from this evening's hi-stress workout. I picked up the remote control and scanned tonight's cable

listings. Besides the normal thousand channels of infotainment, there were amateur-vids, pubforums, hobby and spec-interest lines, two-way chatshows, and "Uncle Fred" showing slides of his blimp-ride to Everest. The usual stuff. I fell back on dialing a good book from the library, and actually stared at the first page of *Robinson Crusoe* for about ten minutes before pounding the cushion beside me.

"Hell."

I told myself I was getting up to fetch a drink...then to go to the can...then to look in the closet for my tennis shoes.... Maybe I'd go outside for an old-fashioned walk....

I found the sneakers where I'd left them, near the crack in the closet wall. Leaning close, I heard soft sounds coming from the room next door — my wife's private sanctum.

They weren't sounds of conversation, but exertion, heavy breathing.

Well, gatherers also used to work hard, netting fish, cutting wild grain....

I knew I was rationalizing as I brought my eye to the crack.

Wearing helmet and body suit, Gaia squatted much as the last time I had seen her in this place, hands outstretched and down before her, as if grasping something. Underneath, the treadmill-floor mimicked an oblong hummock which she straddled while strenuously rocking back and forth. Whatever she was doing in her private world, it apparently involved a lot of effort, for her head rocked back and I heard her moan aloud.

I knew that sound. I looked again at the shape beneath her, and saw that it recreated no patch of ground, no fallen log. Even without goggles for seeing, earphones for hearing, or gloves for touching, I could tell the outlines of a man.

I NEEDED THOSE sneakers, after all. I left at once, and took a walk along the sky bridges lacing the gray metropolis at the forty story level, overlooking the maze of transport tubes and vibrating machinery which keeps the city alive. Looking up past the towering canyon walls of Chitown, I could see no stars, just a hazy glow diffused by pollutant haze. Late at night, I should have been grateful for the countless Public Safety cameras, peering from each lamp post. But they only made me feel conspicuous, *supervised*. On the veldt, you don't fear being victimized by a million strangers. Twenty thousand years

ago there *were* no strangers. All you needed was your tribe.

I ducked into a local bar, under a 4-D holoneon sign with one dimension burned out. The beer was excellent, the atmosphere depressing. Other men sat nursing drinks, scrupulously avoiding eye contact with those around them. A wire-o in the corner kept dropping quarters into a stim-zap machine, then sticking his head under the hood for direct jolts of electric pleasure. His sighs were sterile, emotionless.

Gaia's had been throaty, lusty.

Now I knew where she had learned that provocative, swaying motion — the one she'd used the last few times we made love. Apparently, she had a tutor, a good one. One I would never meet, let alone get to punch in the face.

Fair is fair, I thought. Hadn't I already rationalized my own encounter with sex-by-simulation, before finding out that Gaia was doing it first? If it fell into the category of masturbation for me, and not infidelity, then why not for her?

That's different! — part of me replied. But hard as I tried, I couldn't see how. My "rival" was a phantom, no threat in real terms. He could never impregnate Gaia, or give her a disease, or boast of cuckolding me to my business partners, or ever take her away from me.

What it really came down to was the mental image, provoking jealousy at a deep, gut level. Jealousy based on ancient drives a civilized man should be able to overcome.

I was no longer sure I wanted to be a civilized man.

No, I didn't get roaring drunk, or provoke a fight with the big guy two stools down. I thought about it, but what the hell? By now I was much too skilled at killing to trust myself in a friendly brawl, out in the real world. Anyway, my neighbor also looked like he worked out. Maybe, for exercise, he took scalps with Cochise, or rode with a VR Genghis Khan. Under our gray urban disguises, we can all be dangerous mysteries.

I paid up and left.

Gaia was dozing on the couch when I got back, or pretending to be. She seemed relieved to have me home, and I tried not to show my inner turmoil. I turned on the TV wall and she, sensing it wiser, went to bed.

Half an hour later, I slipped into my body suit and re-entered my private world.

Weeks passed. Gaia grew larger. We spoke little.

My consulting firm finally won the Taiko Tech account, worth millions. I rushed home and celebrated with Ankle by first killing a lion, then making love by a cool bend in the river. We lay together, listening to locusts and the wind in the swaying branches, while a dry heat seemed to suck all the dank, fetid odors of the office out of my skin. Tension at work had left knots up and down my spine, which Ankle worked out with her strong hands.

She listened quietly to my recitation of setbacks and victories in the corporate world, clearly understanding none of it. That didn't matter. My VR people knew and accepted that their chief spent most of his time far away, in the Land of Gods. In a way, Ankle was the perfect, uncritical sounding board.

If only it had been that simple dealing with the hanging, unspoken tension between me and Gaia. Ankle would have listened to that, too, but what was there to say?

The whole thing was preposterous and my fault. Why should it bother me what my wife did in fantasy play?

It did bother me. It was starting to split us apart.

"I want to show you something," Ankle announced, picking up her clothes and evading my grasp. "Come," she urged. "Long Stick can send some boys for the lion. There is something nearby you must see."

I shrugged into my tunic. "What is it?"

She only smiled and motioned for me to follow. Still wrestling to lace my moccasins, I tried to keep up as she led me toward a forested rise. It lay in the direction of "Camp," the fictitious home base I had never seen during all of my workouts with small groups of hunters. It would have taken so much computing power to process a full tribe that it simply never occurred to me to journey in this direction.

We reached the top of the rise and soon picked up faint sounds...human voices, talking and laughing. We approached stealthily, crawling the last few meters to peer over a steep bluff. There we saw, a couple of hundred meters downslope, a small gathering of people clustered around an oak tree. They were using tall poles to bat away at an object high in the branches. Occasionally, one of them dropped her pole and hopped about, swatting at the air while others laughed.

Gatherers, I realized. Going after a beehive. This was my first glimpse of the other half of my "tribe." Calmly, I noted that many were accompanied

by children...and that one of the unaccompanied ones was decidedly pregnant....

My breath suddenly caught as I recognized the rotund, laughing figure.

All this time, Gaia and I had played in our own pretend neolithic worlds, and never guessed they were different parts of the same tribe!

It hadn't started out that way. We had bought the original versions of our programs separately, before we even met. But in retrospect it seemed an obvious thing for the computer to do...to save memory space by pooling our adventures in the same metaphorical landscape.

"It affects us," Ankle said.

"Who?"

"We. Your folk." She motioned toward the gatherers, slapped her own chest, and waved toward the east, where the hunting parties roamed. "It hurts us."

"What hurts you?" I asked, perplexed, distracted.

"The break...the pain between you two."

I was too confused, too curious about this new turn of events to follow what she was saying. I peered at the figures below, and saw two *men* among the women down there, helping to steal honey. Just as some women could be hunters, certain males might choose the rites and rhythms of gathering. Probably, one of them was my rival, Gaia's synthetic paramour.

Suddenly it seemed important to get closer. But as I made ready, Ankle stopped me.

"You cannot," she said.

"What do you mean?"

"Certain charms are needed. To unite us. Unite the tribe."

"Charms?"

She nodded. "From the Land of Gods."

After a pause. "...Oh, I get it."

She meant more memory, much more. Until recently, I had hunted with just one companion, then ten or so. Joining the two simulated worlds, depicting several score personified characters, would take more power than our house console possessed.

But that was no problem! I had a big raise coming. I could go right out and buy the chips on credit! My fist clenched in anticipation. By this time tomorrow, I'd get a much closer look at the bastard who...

Suddenly, the laughter below broke under a single, warbling cry. One of the women dropped her pole and doubled over in agony, clutching her swollen abdomen.

I didn't stop to think. With a bellow I came to my feet, running downhill toward the petite form, writhing amid a cluster of anxious women. "Gaia!" I cried, frustrated that the ground grew tarry with each step. The gatherers, too, seemed to blur around the edges as I neared, one heavy step at a time. The earth trembled and Ankle clutched my arm.

"Not that way!" she screamed, cringing as I whirled in anger. "You must go!" She slapped the side of her head, then pointed to mine.

Damn the realism of it all!

Cursing, I tore off the helmet, gashing my cheek on the strap. The body suit still formed a matrix of other-world sensations — hot savannah wind and gritty moccasins. But abruptly my eyes saw a tiny, off-white chamber, its coarse floor of needles mimicking a steep hillside. Sense-conflict made me sway in confusion as I dove for the door.

"I'm coming, Gaia!" I cried, stumbling into the hallway in haste to reach my wife.

They're making a big deal out of it. I've been interviewed on some of the lesser zines. There's even talk of reviving childbirth classes for husbands. But it's just silly, all the fuss. Any other man would've done the same. What matters is that everything turned out all right.

Tommy junior thrives as his stim-crib eases him into the gaudy multi-world. He'll grow up in Chitown, and on Mars, in mythic Greece and a neolithic clan. He'll roam forests, to know what we've lost. As a teen, he'll live out fantasies lads of my time only imagined. Still, even his generation will learn to tell what's real. *Reality* is what still hurts when you take the suit off.

Gaia and I solved our problems once our tribes united. Each of us still plays with personas now and then. Despite all the sudden yammerings of the neo-prudes — who could resist? Anyway, we always come home to each other, and that's what counts. Virtuality is fun — it's good to be the Chief — but nothing matches the sweetness of her real skin, or the unpredictability of her real mind.

• • •

My blood pressure is low. My arteries are squeaky-clean and muscles wiry, strong. I stay a little hungry, like my ancestors, and may live past a hundred. In a cramped world of twelve billion souls, I can run for hours seeing no one but gazelles, or a lonely hawk.

Lions know to give me a wide berth.

Let others be gods in their private realms. I'm content to be a man.

Give me time. I'm even learning to like termites.



HE'LL 'STAY', ALL RIGHT...



...THE VELCRO DOGMAT



A SCIENTIST'S NOTEBOOK

GREGORY BENFORD

DEEP TIME

MODERN technology projects our grasp across great distances. Our Voyager space craft glide serenely beyond the solar system, headed out forever. Less obvious is our technology's reach through time.

We peer backward through tree ring dating (good to about 5000 years), Arctic ice bores (which measures layers of ice, good to about 200,000 years), and nuclear dating methods (good for the Earth's age, about 4.6 billion years). Through the astronomical time machine given by light's finite speed — the so-called "look-back" time — we can look out to several more billion years, culminating in the recent scrutiny of the early universe radiation, we have seen structure as it was about fifteen billion years ago, only perhaps a few million years after the universe began.

We are much less aware of our

reach in the other direction, the future. The Voyager probes carry plaques rhapsodizing over our culture, gestures which might be read billions of years from now. Cosmic time capsules. But on Earth, until this century, the Pharaohs were the champions at knowingly reaching down to their posterity — less than 6,000 years.

Nuclear physics changed all that. Now we leave a legacy — on the earth's surface, not gliding serenely though space — through the long half-lives of the radioactive byproducts of nuclear power, weaponry, and medicine. These will be around for tens of thousands of years. Chemical wastes may also be as persistent.

In my last column I described my adventures when asked by the Department of Energy, acting for Congress, to estimate the risks of inadvertent disturbance of a projected

nuclear waste repository (the Waste Interment Pilot Project) for the next ten thousand years. We estimated the probability at a few percent.

I believe eventually even Not In My Back Yard politics will be unable to stop interment of wastes in the salt flats of southern New Mexico. Whether one regards this as a good idea or not, the political fact is that we have largely run out of time to decide how to store wastes. Holding even low grade radioactive wastes in "swimming pools," as we do now, runs real risks and can't be simply continued for, say, another century. The stuff leaks, gets into ground water. Increasingly, the public wants all sorts of wastes, nuclear or chemical or biological, interred far, far away from them.

Given this, how will we protect future generations from such deep-future hazards? How to warn them off the site? A second panel discussed the marker problem in detail, with necessarily science-fictional logic. I found all this to be just about the most fun possible while working for the government.

One illuminating moment came after a day of intense discussion among the so-called Expert Judgment Panel. I was the only science fiction writer there, but the group spanned

most sciences, including people like Theodore Taylor, the inventor of the Project Orion idea — spaceships driven by nuclear warhead explosions — in the 1950s. We decided to detour near the Pilot Project site to find the site of Project Gnome, a nuclear test.

In 1961 Project Plowshare exploded a small warhead a thousand feet down in the same salt flat which the Pilot Project wanted to use for nuclear waste storage. The idea was to heat up rock salt and use the molten mass's residual heat to drive steam through electrical generators.

It failed. The blasted-out cavity soon caved in, burying the molten salt. One would think this might have occurred to an engineer before they tried it. But that was in the golden years of nuclear development, when ideas got tried for size right away, rather than spending a decade or so mounting up piles of paper studies.

We all got out of our government-gray cars and the drivers waved vaguely at the flat scrub desert, dust devils stirring among the sage. We spread out, shooing away grazing cattle. A hoot of discovery. A granite slab, tombstone-sized, bearing a copper plaque running green from oxidation. In big letters, PROJECT GNOME, followed by GLEN SEABORG, then Director of the

Atomic Energy Commission, and in smaller type the generals and bureaucrats who had overseen this failed effort.

I walked around the slab and saw another plaque, its raised lettering rusted and nearly unreadable. We could barely make out some technical detail: kilotons, warhead type, purpose, amount of residual radioactivity. At the very bottom,

THIS SITE WILL REMAIN
DANGEROUS FOR 24,000 YEARS.

If we hadn't known our quarry, we would not have found it easily out on the dry plain. Drab, small, it did not announce itself.

We could tell, though, that it had been moved. Apparently, cattle needing a rubbing post had in thirty years nudged the slab several meters. How far away would it be in 24,000 years?

Our team, charged with estimating the chances of inadvertent intrusion into the Pilot Project salt flat buried 2150 feet down, also suggested possible strategies for placing warning markers. We envisioned "miner moles" which would slowly tunnel through deep strata, searching for neglected lodes of valuable minerals. This implied a "spherical strategy" — deploying markers apparent from above, beside and even below the deep repository.

The Pharaohs used one big, obvious marker for their tombs, the pyramid; we suggested as well small, dispersed tags, visible to "eyes" which could see magnetic or acoustic or radioactive signs. Acoustically obvious markers could be made — solid rock unlikely to shatter and lose shape in the salt beds.

Large granite disks or spheres might be easily perceived by acoustic probes. They could be arrayed in two straight lines in the repository hallways, intersecting perpendicularly at the center: X marks the spot. Magnetic markers could produce a clearly artificial pattern. These could be magnetized iron deposits, flagrantly artificial. Specially made high-field permanent magnets could produce a clear pattern, the simplest being a strong, single dipole located at the Pilot Project center. (This I stole from *2001: A Space Odyssey*; thanks, Arthur.)

Radioactive markers could be left at least meters outside the bulk of the waste rooms and drifts — say, small samples of common waste isotopes. Like similar weak but telltale markers left on or near the surface, these have the advantage of showing the potential intruder exactly what he is about to get into. No language problem.

All these markers should be de-

tectable from differing distances from the waste itself. Acoustic prospecting in the neighborhood could pick up the granite arrays. Magnetic detectors, perhaps even a pocket compass, could sense the deep iron markers from the surface. Ultra-sensitive particle detectors might detect the waste itself, or small tags with samples of the waste buried a safe distance below ground. (These would be small amounts, of no health risk to the curious — weaker than a radium watch, yet slowly decaying.)

But there's a more basic decision: whether to mark hazardous sites at all. Perhaps the best warning is no warning. The only major unviolated burial site — King Tut's Tomb — provided us with much of the Egyptian legacy; unmarked and forgotten because its entrance was soon buried under the tailings of a grander tomb, it escaped the grave robbers, who may well have included the priests of the time.

Could a hidden or forgotten hazard protect itself from harming future generations best of all? A "soft" surface marker which erodes in a few centuries would cover the short-term possibilities, I argued, and then avoid curiosity seekers in the far future. High technologies would still be able to sense the buried markers, after all.

Still, this imposes ignorance on

our descendants, who may wish to avoid the place but not know quite where it is. Also, low-tech wildcaters drilling for scarce resources in some re-emergent future would have no warning.

Still, I proposed this, mostly for fun. I suggested that standard-issue government concrete would be useful here: it disintegrates in about a century or so, providing everyone with a big, noticeable object for a reassuring lifetime, then erasing it.

Nobody much liked the idea, as I'd guessed. One of the major psychic payoffs in considering markers at all is the Pharaoh effect: the impulse to build a big monument to...well, yourself. Or at least your era. They won't forget us right away! Even better if somebody else (the poor taxpayer) foots the bill.

Considering vast stretches of time tends to bring on lofty sentiments. But the present is mostly ruled by money, so as an example, the panel worked out the costs of erecting a Cheops pyramid, which has lasted 4,600 years. Using square blocks of granite, 9x9x9 feet, one could engrave all six sides with warning messages.

That way, if the exterior faces wear away, lifting one block would uncover a fresh inscription. The pyramid core could hold, not a Pharaoh,

but a set of more detailed messages, for those in the future who will dig in out of simple curiosity (archaeologists), or those suspecting that there's a treasure in here somewhere, or else why go to all the trouble?

Making all the blocks of the same material eliminates problems arising from different thermal expansion rates, which can cause cracks. Tapering the pyramid less steeply than the natural slope of a sand pile would avoid much damage from earthquakes. Like the Cheops pyramid, the load bearing stress would be wholly compressive, using only gravity to hold it all together, with no tensile forces which open cracks.

Trouble is, that's expensive. If a single inscribed block costs \$5,000, they would cost \$62 million, about 6 percent of the to-date cost of the Pilot Project, though less than one percent of the projected cost over the site's entire active use.

This is no accident. Considering many different markers taught a tough lesson: longevity trades off against cost. There is no simple, good, cheap marker.

Thinking like a cost-conscious Pharaoh, suppose we make the blocks smaller, to ease assembly costs. That makes them easily climbed, increasing vandalism. It also means ordinary sized people can reach all the

inscriptions without a ladder.

That opens a larger question: the greatest threat to the Pharaoh's pyramids and to a nuclear marker pyramid is pesky, grasping humans. In historic sites, metals quickly vanished, and buildings were quarried.

Useful, cubic blocks especially might be carted away. The Cheops pyramid lost all its cladding marble skin quite quickly; ancient Greek travelers remarked on how they could be seen as bright white beacons, far across the desert, but no modern observer has found any of that left. (Indeed, it is worth remembering that the Washington Monument was vandalized immediately after it opened in 1886, and the interior stairwell had to be permanently closed. Vandals don't respect greatness.)

One could offset such problems. For example, using interlocking but irregularly shaped blocks would stop their use elsewhere. Making the materials outright obnoxious might help, too—but stones that exude a bad smell steadily evaporate away, destroying the structure.

A better path might be to make the marker hard to take apart. Here the clear winner is reinforced concrete. The Cheops would take much less work to tear down than it was to build up, but the reverse is true, for example, of the Maginot and Siegfried

lines of the World Wars. Despite intense political pressure from local communities, the bunkers have proved to be too costly to take away. Contrast the colosseum in Rome, which has suffered greatly, with most of its building stones "recycled" into houses.

Probably the ancients understood this principle quite well, since Stonehenge (1500 BC) used blocks of up to 54 tons and English tombs (2000 to 3000 BC) used stones of up to 100 tons. They thought the trouble was worth long-term insurance.

Our experience with concrete goes back 2,000 years; six of the eight Roman bridges built across the Tiber are still in service! We must be a bit cautious here, though, because it is quite possible that Roman concrete was *better* than ours.

This is because strong concrete demands a low ratio of cement to water, a very stiff mix that is tough and pricey to work with. The Romans used slave labor to ram firm concrete into place, and today's contractors pump a sloppy, muddy mix through pipes. This can make the concrete twenty times less durable than the dry, high-grade sort.

But even such precautions run into a sad lesson of history. Pyramids and other grand structures often mark honored events or people. This might

be the primary message a pyramid sends: here's something or somebody important. Why not come see? And surely such a big monument won't miss this little chunk I can pry off here...

This led both panels of experts toward marker *systems* — different-sized components, relating to each other so that the whole exceeds the sum of the parts. Vandalism doesn't usually take everything, so the message gets through in a holographic sense. (About a third of the Stonehenge stones are missing, yet we can infer the entire design without much dispute. People differ over whether there is evidence of Mycenaean Greek influence in the architectural niceties, or just what the building was truly for, but its layout is clear.)

The best way to insure survival of truly enormous structures against both weather and pilfering is to make them out of dirt. Prehistoric mounds last well. The Romans built a long wall to keep out the Teutonic tribes, stretching from the Danube to the Rhine. Even in that wet climate, while the wood is completely gone, the earth berms survive. Hadrian's wall in England is a similar case. The record is held by a chambered passage grave which is today a simple mounded earthwork in Ireland, older

than 5,000 years.

The panels thought along truly gargantuan lines. A simple berm of, say, 35 meters wide and 15 meters high, completely ringing the Pilot Project area, would demand moving about 12 million cubic meters of earth. The Panama Canal moved 72.6 million cubic meters, and the Great Pyramid occupies 2.4 million cubic meters. So this will be one of the grandest public works in history.

That's initially to greet the tourist, who might mistake even a huge berm for a natural hill, ten thousand years from now. To get their attention, the panels wanted a ring of monoliths, probably of granite, bearing a variety of symbolic, pictographic and linguistic inscriptions.

Stonehenge and other sites have taught us that to keep monoliths upright, more must be buried than is exposed, or else it should be firmly stuck in a rock layer below. They will probably have to be erect, too, because slanted monoliths have a poor track record. They develop tensile stresses at the surface, and in brittle material like granite, once a crack develops, it reaches a critical length—and then the whole monolith splits.

There are good reasons to make none of these from composite materials—thermal stresses, as in the pyramid. This means the monoliths

will be imposing, homogeneous rock, arranged in patterns that convey our message of threat.

But prudence suggests that we should also scatter small markers around the site, perhaps slightly buried, which attract attention even if the monoliths somehow fail. The panels considered electrically active markers, reasoning that thermo-electric power (which would use the temperature difference between the surface and 100 feet below) or solar power is available.

The trouble is that even the most reliable electronic components, such as those used in undersea cables, only last a few centuries. More reliably, we could embed contrasting dielectric materials in the site surface, which reflect radar differently. These would give a good, artificial signal to airplanes or even orbiting satellites.

We could also bury time capsules, just a bit below the usual souvenir-hunter's digging zone, made of tough stuff—baked clay, tektite-like glass. These might be tablets, far better than the mud tablets the Babylonians left (inadvertently).

Finally, everyone agreed that there should be some sort of central chamber, where detailed messages are left. It would have a lot of plane surfaces for messages and could be completely buried. It can also in-

clude buried magnets, which would be detectable with a good pocket compass even if all surface signs of the site vanish. Their fields could point at the buried waste.

If we elect to put this central room above ground, there are several ways to go. We could use messages chiseled into granite, such as the biography of a Persian king, Darius I, which has lasted over 2000 years in open, dry weather. It had to contend with blown sand and carbonic acid in rain, but not with the sulfuric acid belched out by coal-fired plants, as now exist within a few hundred miles of the Pilot site.

Beyond 2000 years, consider a faint carving of a square-hilted dagger on the inner surface of a sarsen stone, which survived in an open field at Stonehenge for perhaps 4,000 years. So expecting detailed messages to last 10,000 years is doubtful.

Probably a buried vault is our best bet — just what the Pharaohs chose. It would be the most interesting and complex marker in the whole site, well hidden, purposely designed to be the world's longest-lasting human artifact. If the above-ground monoliths were strikingly beautiful, maybe the locals will preserve the site because it is pleasing, rather than for its message — thus

letting the message travel longer through time, perhaps to a more distant era which needs it more. Saving the striking, obvious structure would leave the vault below undisturbed.

A visitor would meet first the encircling earthworks, then a ring of monoliths — say, as wide as the length of a soccer field — and finally some central marker that would tell of (or suggest) the buried chamber. The idea is to draw them in, make them feel psychologically enclosed in the monolith circle, become "involved" with the stone monuments at the center, induced to read the pictographs and messages inscribed.

Maybe it would be smart to convey the general *emotional* message in some direct way, independent of language. Suppose we erect some aerodynamically streamlined monoliths with gaps between them. These resonate in the wind, sending forth a hollow, mournful note. Most likely, such wailing rocks could establish a legend about the site that transcends language.

There's the rub — getting through to cultures and languages we cannot anticipate. The future may see our scientific age as a passing phenomenon, an idiosyncratic momentary deflection from some

One True Path we would not even recognize. So how can we expect them to share our (often unspoken) assumptions, and thus read our warnings?

Generally, we can't. But there are ways of shaping a message so that it has some plausible chance of sailing intact across the great ocean of Deep Time. I'll take up those methods in my next column. We may not be able to predict the future, but we can reach it nevertheless. One could characterize nuclear waste containers at WIPP as hazardous time capsules sent into the future, not knowing where they will land or what effect they will have, hoping (perhaps even assuming) that technology will solve the problems they currently represent.

In a sense the Pilot's task runs against powerful human archetypes. We aren't saying, as burial ceremonies do, "Take this child — his name is Klug." or "This mummy of our king we place here, for he needs resurrection." Instead, we're trying to say: We buried this and it's *bad*.

The only other alternative to this millennia-spanning waste problem is to forswear hazardous technologies in the first place; but we already have plenty of waste, with more accumulating from medical

uses alone, so there really is no going back. Besides, how do you get people to give up x-rays and cancer treatments? We are stuck with our largely unrecognized reach into Deep Time. Seemingly minor acts today can amplify through Deep Time, leaving legacies we do not intend and in fact may not even know.

In closing, consider Trinity Site, the spot where the first A-bomb was tested in 1945. At Ground Zero in White Sands, New Mexico the blast left a glassy crater of fused aluminum silicates a quarter mile across and twenty-five feet deep.

Now there is nothing. Dry winds had filled the crater, tough desert plants had cracked it. Radiation levels are very slightly higher than the background of ordinary scrub desert. Life had reclaimed its territory in a single human generation. The "message" of Trinity is gone.

The easy problem of Deep Time is time's rub. Greater still is the abyss of culture we must cross.

The barren Trinity site recalls Shelley's "Ozymandias":

And on the pedestal these words appear:

*"My name is Ozymandias.
King of Kings;*

Look on my works, ye Mighty,

and despair!"

Nothing besides remains.

Round the decay

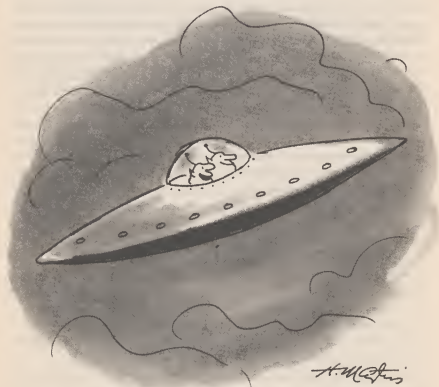
Of that colossal wreck, bound-
less and bare

The lone and level sands
stretch far away.

Deep Time is a territory open

to poet and scientist alike.

Comments and objections to this column are welcome. Please send them to Gregory Benford, Physics Department, Univ. Calif., Irvine, CA 92717.



"Well, I always say, It's good to get away and it's good to get home."

Steven R. Boyett's most recent novel (with Alan Aldridge), *The Gnole*, was published in England in 1991. "Epiphany Beach" is an excerpt from his upcoming novel, *Green*. The story is about a familiar monster.

"I was quite charmed by the armor-plated little guy," Steve writes, "and wanted to know more about him and to see him through his uneasy relationship with the periphery of our world. I felt kinda protective of him.... I like to think of him out there some deep where, maybe sitting in a chair with his feet on a table in an air pocket of the Titanic, reading a 90-year-old novel and content in his solitude. Poor guy — even the Titanic is turning into a tourist attraction."

Epiphany Beach

By Steven R. Boyett

THE CREATURE FROM THE Black Lagoon lies in his grotto reading a Jackie Collins novel. His dorsal ridge is comfortably folded along the rough

length of his back. His head's propped on a smooth rock and he's smoking a Camel Light. The cigarettes are a recent acquisition, a fringe benefit from putting the heebie-jeebie into a smoker on the shore. They often leave a pack behind in their sand-kicking haste to get the hell away.

The Collins novel, however, is not new. The Creature has read it three times now. Or is it four? The thing is, his last novel was an old paperback copy of Harold Robbins' *The Betsy*, which got soaked on the way to the grotto when the baggie he'd placed it in somehow sprang a leak. The book never dried out properly in the moist air, and before long it fell to pieces. The Creature had threaded string through the separate pages and hung them in zigzags across the grotto. He would walk in the dark from page to page, reading. The Creature can see in the dark. Those huge, light-gathering eyes have seen fish that themselves have never seen light.

That Harold Robbins sure could write.

Now, though, all people ever bring to read on the beach are Stephen King and Danielle Steel and Jackie Collins. If anyone else out there is writing novels, the Creature hasn't read them. Oh, sometimes there are ads for other novels, in back of the books he scavenges, and he bubbles with curiosity about what they must be like. Sidney Sheldon, for instance. He sure has written a lot of books. He must be really good.

The tip of the Camel brightens as the Creature inhales. Blue smoke vents from his gills to curl out of the faint orange light in the still air of the grotto. The Creature turns a page and sees that this chapter ends on the page facing. Ought to time out with the end of the cigarette. How about that.

In the book, a man and a woman are in bed with their clothes off. They do that a lot in books, especially the Jackie Collins ones. It puzzles him. Oh, he knows what sex is: it's how people make eggs. But he isn't too clear what a bed is.

The Creature has learned a lot about people from Jackie Collins. Also from Stephen King, though those books scare the hell out of him. The monster usually gets it at the end. Sometimes it doesn't, and the Creature feels a little better, but mostly Stephen King writes tragedies.

The Jackie Collins people finish making eggs and light cigarettes. The Creature takes a last long drag from his nonfictional unfiltered one, blows smoke from his neck, and stubs the butt out against his plated thigh.

Time for a swim and a stroll on the beach.

THE WATER is fine and dark. The ocean is unusually warm for this time of year. The Creature moves through the water; the water flows 'round him. Swimming quickly, he extends his huge pale webbed hands ahead of him. The flowing water tickles the fleshy crests in his palms and along the backs of his thick wrists. He kicks with splayed feet, and cups his hands to feel them redirected by the water, feel them turning him in the water like rudders.

A fish swims into his open mouth. He bites and swallows.
Grunion.

Well, no one on the shore. No ooga-booga today. Just as well. Wanted to sun a little anyway.

Before he lies on the hard-packed sand, the Creature combs the beach. Always on the lookout for things to make life more pleasant in the grotto. Sometimes he finds useful objects. Or objects from which he can make useful objects. Coke cans and potato-chip bags have little practical value for him, though he likes the bright colors. Plastic he likes. Plastic lasts *forever* underwater. Even slime doesn't stick to it worth a damn.

Often the best things the Creature collects are the result of putting the heebie-jeebie into some unsuspecting tourist. He's pretty much got it down to a science by now. Make sure you're still wet and glistening; drape some seaweed here and there for effect, come up behind them, let your shadow fall across their beach blanket, give 'em lots of teeth and eyes.

Ooga-booga!

They leave all kinds of things behind. Novels, cigarettes. Towels, radios, food. He'd really got to liking that Kentucky Fried Chicken. Plus the occasional terrier. And those enormous radio/cassette-player things people had started bringing to beaches in the last ten years or so are great, much better than those scrawny, fuzzy-sounding things he used to find. Reception in the grotto is terrible, but over the years he's compiled enough wire to rig an antenna that pokes up into the air. Boats run across it sometimes, but it's easy enough to fix, when he's motivated. When he's not, he has *Hotel California*, by the Eagles, and *Nasty as They Wanna Be*, by something called 2 Live Crew.

Stuff he can haul to the grotto is great. Stuff he wants but has to leave behind is infuriating. One night the heebie-jeebie act netted him a Suzuki Samurai jeep, keys and all. What the hell good was that? He drove it around a little while, just to see what it was like, but the jeep had no doors and the wind made him dry around the gills. The suspension was so tight he felt every bump in the road. He ended up salvaging some wiring and gas, the alternator, generator, battery, antenna, and a tool kit and patch kit (which he used to fix his inner-tube raft), and left the rest.

Today is slim pickings. Condoms, a flip-flop, a comb, some change. He tosses the coins one at a time over the flat black water, counting skips. One, two, three-four-five, and gone.

His record is twelve, with a silver half-dollar.

The final penny he saves for a hovering seagull, but his hands are not well designed for throwing and he has never hit a seagull yet. Or any other bird,

for that matter.

The Creature is about to lie on the sand when something catches his eye. It's on the dunes past the beach, between him and the distant pier on the north end of the bay. Some kind of bright sign hanging from a wooden post driven into the dune. But it's not yet late enough in the day for the Creature to venture from the shore to investigate it. He doesn't move very fast on land (which is why it's good he looks so scary — if they came after *him*, he'd never run away in time), and he doesn't like to be far from the water in broad daylight. The sun dries him out, and if he's sighted by anyone with more presence of mind than those who holler and run, all kinds of unwanted attention will end up being paid to his aquatic home.

He lies on the wet sand near the water and shuts his eyes. Already he feels the light, the heat, drying him. He feels it deep in his seamed joints, an invisible presence against his closed eyes. His sensitive eyes, each pupil the size of a fingertip (cavern eyes, dead sea eyes), a thin membrane dividing sight from blackness. The sun dries the ridges of his scales, drains the canyon fissures of his joints, feathers the lettuce leaves of neck gills, parches the webbing spanning fingers and toes to brittle parchment.

And deeper than skin: as if his bone is bleached and marrow become porous chalk. In water he is buoyed, supported, a creature more of space than of earth, living in a three-dimensional world of shifting temperatures and currents rather than crawling the flat skin of land. On the beach, though, the light presses down on him, the heat presses him down. He feels connected to the ground.

It is a delicate balance he must maintain: he cannot breathe air, and can hold his water away from the lagoon only twenty or thirty minutes. If his skin dries it will crack and split, and he will weaken until he cannot drag himself back to the water to breathe, and he will die.

Ashore his sight is blurry because his eyes get so dry.

So offshore forays are few, and sunbasking is reserved for late in the day, in the off-season, very near the water indeed.

The Creature opens his huge eyes and splashes water away from them. The sky ripples and clears. A private plane is a black T moving against white clouds. It pulls red letters along: **TAN, DON'T BURN!**

The Creature waves to the airplane and shuts his eyes again.

Fifteen minutes of this is more than enough. The Creature rolls out to

sea, venting from his neck, feeling his body reawaken at the water's touch. Neck muscles pump autonomically, engorging as water begins to circulate again.

Feeling more awake, he stands and trudges toward the shore, toward the sign on the dune.

**LAGUNA NEGRA RESORT
SHOREFRONT LUXURY**

*The Good Life is Here
Villa Nova Development Corp.
Watch Us Grow!*

Oh, yeah?

The Creature curves his fingers and slashes furrows across the plywood sign. He frowns. Once more, for effect. He slashes again and splinters rip. One slides into the soft underside of a claw. The Creature removes it delicately with a thumb and forefinger, then puts the injured finger in his mouth.

He bats the sign with his free hand. The post cracks and the sign falls face-down to the dune. The Creature turns it over so that ragged claw marks face the sky.

Let them chew on that a while.

There is night in the ocean, though a very different kind. The swimming patterns of fish change; they become more passive, some even sleep — though their defenses do not. Bioluminescent plankton provide ambient ghost light. Fish are much more approachable in the small hours, and the Creature pops them into his naturally frowning mouth like fruit off the vine. There's no true difference in the water itself at night — more than a few feet below the surface the temperature is constant and currents run oblivious to surface weather — but the *feel* of the water is different somehow.

The Creature has a lot on his mind and cannot sleep. That sign, for one thing. And encounters with human beings have begun to occur too often to suit him.

This is not a cheering thought. If the humans begin building along the shore of this lagoon, he will have to leave for wetter climes. His ability to defend himself with his frightening appearance is in a way an invitation to invasion, and therefore self-defeating in the long run — because if his shadow falls across the wrong people, more will come looking for him.

The Creature doesn't want to leave. He likes it here, and over the years he's made a good and comfortable home in his grotto. The water is almost always cool (though certainly not as clean as it used to be); the sun is always warm (though the air is not as clear as it used to be); the local fish are delicious (though the ones to the north, where raw sewage is dumped, are not, and the ones to the south, near the San Onofre nuclear power plant, are just plain *weird*); and humans have not been too abundant along this stretch of coastline — unlike the areas to the north and south, which are positively crawling with them, not to mention their huge unregulated cargo tankers bleeding strange chemicals into the water.

— Hmm. The Creature has never made the connection before, but now he wonders if the badness and weirdness of fish to the north and south has anything to do with the abundance of humans there.

Well, anyway, here in Laguna Negra there are always interesting things to hunt up, and humans are, admittedly, endlessly fascinating (from a distance!), and when he's bored there's the continental shelf that plunges deep and dark away not a few miles offshore. There's always something new to be seen *there*, you betcha.

Besides which, nice stretches of shoreline to relocate to are becoming an endangered species in themselves. And there's the inconvenience of moving, of having to get settled in a new place and finding a suitable grotto and making it up to be his very own. And he'd miss those Jackie Collins novels.

What to do, what to do?

He swims. His world washes across his body.

It's more difficult to plant a DO NOT DISTURB sign on the ocean than it is to pound a luxury-resort sign in the sand. Because it flows, because it covers seven-eighths of the planet, and mostly because the humans do not live in it — yet — the oceans have not been parceled out and sectioned off and redefined the way the land has. There's a quaint and arrogant notion among humans that the oceans belong to everybody (every *human*, that is). Beyond the Twelve-Mile Limit begin International Waters, don't you know, so that

sharks that swim eleven and a half miles off the California shore are American sharks, but half a mile later they are sharks of the world.

International indeed! They are *non-national* waters; if the entire surface of the ocean were covered with ships, it would still represent only a ten-thousandth of the ocean upon which they floated, and the teeming billions upon billions of fish and plants and crustaceans and mammals beneath wouldn't give a damn. The skin on a soup is not the soup.

Right now the Creature (currently an *American* Creature) is not thinking of any boundaries and identities larger than personal ones. True, he's a visitor here. But when humans enter the ocean, they're visitors, too. Heck, when you think in terms of being alive, we're *all* visitors.

From the near distance the Creature hears a faint burbling followed by an oddly childlike siren note bending downward. He recognizes it and kicks off from the muddy sea bottom.

A few minutes later he senses the presence of the caller before he sees it: a massive, graceful, two-toned, two-tonned, twenty-two-foot-long, large-toothed, air-breathing mammal. A killer whale.

Even before he sees it floating on the surface at an odd angle and swimming weakly shoreward, the Creature knows the whale is in distress. There's a certain despondency in its ancient sad call, a kind of world-weary wisdom. The Creature has heard such calls before and he knows it is the sound of a whale in pain and struggling toward the shore to die.

The Creature breaks the surface near the lopsided mass of the whale. Moonlight fractures on the ocean's light chop, glistens mercurial on the whale's tapering bobbing body. The Creature kicks with splayed toes to keep himself afloat and upright. From the teeth-scars near its genitals the Creature knows that the whale is a female; raking teeth along the genitals is something males do as part of sexual play.

The Creature extends a hand and slowly, gently, lightly touches the sensitive slick skin of the whale. His claws slide delicately just behind the right lateral fin. The deep-pitched clicking halts as the whale senses the Creature's presence.

For a few minutes they bob there on the ocean like shipwrecked aliens. The deep clicking resumes.

Why do they beach themselves, these whales, these dolphins, these brilliant alien minds in the ocean? Marine biologists always look helpless

before local news cameras and speak vaguely of inner-ear parasites and infections fouling up the cetaceans' sense of direction. But normal behavior for cetaceans is to support injured or ill members of the herd on the surface so that they can breathe. There's even a name for this: *epimeletic behavior*. And entire *herds* have beached themselves. When returned to the sea by well-meaning humans they head straight back to the shore; no fouled-up navigation there.

The Creature knows what the whales and dolphins are doing. But he isn't sure *why* they are doing it. What he *does* know, which humans don't, is that even as recently as fifty years ago the ocean brimmed with whales and dolphins communicating across vast distances with their echoing cries by using the conducting medium of the sea and the ocean floor as a sounding board, and that when their numbers began to dwindle and their great songs and messages were drowned in the drone of engines in the ocean, the whales and dolphins began to head shoreward to die.

There's a mist rising. The killer whale shudders, spouts from its blowhole, and strains on. The Creature knows that the whale will make the shore or die trying.

Gently he clasps the black lateral fin of the ailing whale and begins kicking landward, helping the fellow creature along its way.

HALF AN hour later there's a soft grating along the whale's belly. They've made the shore. The Creature plants his feet in the yielding sand and pushes the whale as hard as he can so that its body will lodge firmly on the sand and not get dragged back out to sea by the waves that never stop trying to reclaim the land. The whale makes a sound that only coincidentally resembles a moan and begins the long labor of suffocating under its own great weight.

The Creature lets go the whalefin and wades closer to shore. There's not much to see; the beach is nearly opaque with moonlit mist. The Creature is grateful for this; it's late, it's dark, it's foggy, and the whale will be left alone.

He lowers his fan-like hands and flings water onto the whale. Its sensitive silky skin will dry quickly in the open air, and the Creature knows from experience that this is painful. But though his hands are large the whale is very big indeed, and ladling water on it by hand is woefully lacking.

He touches the whale once more, then leaves.



He returns with a fifty-gallon iron trash can. With little effort he draws it across the surface of the water and in the same motion splashes the whale.

There's a huge hiss as the whale vents stale air from its blowhole. It draws an incredibly deep but painfully labored breath. The Creature sees that the tide is going out, which means he will not have to fight to keep the enormous animal beached. The mist is so thick the Creature can't see all the whale at once. It emerges from the fog impossibly large to be alive; it must be some kind of vessel. And it is, it is! It has traveled and explored and gathered; it has roamed the drowned lands and encountered creatures no air or starlight has ever touched, skirted mountains taller than Everest whose peaks have never broken the surface. A vessel with a cargo of memories, feelings, songs.

The Creature ladles water with the trash can a few more times, then wades up to the whale's head.

Beneath the slanted white oval of an eyebrow marking is a small black eye. It's ridiculously tiny for an animal so huge, but the whale relies on senses other and deeper than sight. Set in a permanent knowing smile below and ahead of this eye shine the milky cones of teeth.

The Creature bends toward that tiny black eye. It's clouded and dull; it does not at all look like an organ of vision. The Creature splashes water into it and the eye clears. He wades around to the other eye and wets it also. He stares with a face incapable of any expression — of remorse or sadness or grief or joy or relief or worry — and wonders if the whale can see him, and what it must think if it can.

He can see the distorted silhouette of his gilled head in the whale's dark wet eye.

But no matter. He hasn't come to the shore for such wonderings.

The Creature retrieves the trash can and returns to his task of keeping the whale wet and comfortable in its final hours.

A few hours later a helicopter roars low overhead. Violent eddies tear across the mist. The Creature watches an ephemeral dancing dervish — a mist-devil, you'd have to call it. The helicopter shudders away; the air calms.

The whale trembles.

Near dawn the whale begins breathing in great strained gasps: *ffff! ffff!*
ffff! ffff!

Holding the trash can the Creature hesitates.

Waves crash. Once, twice, a third surging powerful time.

A long hiss, like a sigh, like the sound you make when you finally get to sit down in your favorite chair after a long exhausting day, goes on and on and fades to blend with the sound of the surf.

The Creature sets down the trash can.

By now the tide is out and the front half of the whale lies fully on hard-packed sand. The Creature leaves huge duck-like footprints as he walks to the whale's head and bends to peer into its tiny eye.

Is . . . ?

The Creature sets a hand flat against the white marking above the dull blank eye.

. . . yes.

He stands there a moment while waves crash behind the body of the whale. The mist has begun to dissipate in the half-light of false dawn. The Creature looks like a figure out of myth, an armored weary Odysseus returned at last to Ithaca, giving thanks and a final benediction to the battered hulk of a boat that has seen him safely home. Perhaps this is not far off the mark.

After a while the Creature lowers his hand and sees that the mountains are limned by the imminent sun.

Time to go.

The Creature turns without looking back and trudges toward the crashing waves. The night's events have made up his mind. His determination is firm as he strides away from the land. Salt water falls around him. The Creature cannot cry, but he lives in a world of tears.



Artist Kent Bash drew his inspiration for our cover from R. Garcia y Robertson's "Wendy Darling, RFC." Most of the story is true: the infant's class, Les Cigognes, the musical 56 Squadron's 10-day defense of London, and the deadly fog in Flanders following the Halloween bombings. Rod promises more Wendy stories in the future.

AvoNova published one of Rod's other series for F&SF as the novel, *Spiral Dance*. He has sold the company two other books, *American Woman*, a fantasy novel about the West, and *Virgin and the Dinosaur*, based on another set of short stories.

Wendy Darling, RFC

By R. Garcia y Robertson

THE INFANTS' CLASS

It was amazing because it was so beautiful, little silver specks far up in heaven...

—*New York Times*, 14 June 1917



WENDY FIRST SAW THE WONG-wongs from her old nursery window. She had the afternoon session, so she was lunching with Mother in the garden, demolishing cucumber sandwiches — when she heard the drone of engines, growing louder, filling the summer sky.

"Aeroplanes, Mum." She set down a half-eaten sandwich and dashed into the house, taking steps two at a time.

The tiny square of blue above the garden was hopeless for aircraft spotting, but the nursery was three floors up. As a girl Wendy had flown about it in her nightshirt; now it was littered with back numbers of *Flight* and *Aero*. A Montaul poster advertised the *Grande Semaine d'Aviation* held at Rheims before the War — a woman in bold print colors waved at aeroplanes and

balloons rising on the red dawn wind. The window opposite was always left open for Peter. Wendy flung it wide.

Roofs and chimneys poked into endless sky. From the direction of Woolwich came the double throb of inline engines working in pairs — the Wong-wong that gave Gothas their nickname. She slung a foot over the sill, held tight to the sash and leaned out. Pavement lay in wait thirty feet below.

"Watch yourself," Mother warned.

"Tosh, Mum, don't be a snooze." At twenty-two, working as a war-time temp, Wendy was no longer practiced at climbing rooftops. She no longer believed pixie dust and lovely thoughts would keep her aloft. But this was the window Peter had flown through. She never expected to fall from it. If she did, Peter was bound to be there to catch her — or so she supposed. Leaning farther out, she saw little silver specks in diamond formation, three miles above the Royal Albert Docks. As they got closer she counted seventeen, coming up the Thames in a slow stately progress over the heart of the city.

People peered out windows or stared up from the street. A woman shouted, "Hun bombers."

Neighbors scoffed. "Not 'ere. Not over London."

"Bloody Wong-wongs," the woman insisted. "I heard them over Maidstone last month."

Wendy saw nothing alarming about the orderly formation — until white puffs of anti-aircraft fire appeared in its path. When they reached Liverpool Station she saw bombs start to fall, and yelled to Mother, "We're under attack. They are bombing Tottenham Court. I can see the smoke."

"Twenty to noon," Mother reminded her.

Wendy swung back into the nursery. She'd be late for afternoon session, and she had the infant's class. What did sixty-four quarrelsome kindergartners know about the war and air raids? She dashed downstairs. Mother pressed a fresh cucumber sandwich into her hands. "Here, eat this on the bus." Wendy fled the house.

From atop a belching omnibus she saw the tiny specks separate, one gaggle headed south across the Thames, the others turning north toward Dalston. She was not the least frightened by this grand show, put on free for the citizens of London. People craned their necks in the street. No one searched for shelter. Nothing matched the innocence of that first daylight raid.

At the North Street stop an officious bobby told her, "Take care. Bombs

been falling hereabouts."

She nodded hastily. "I work in a basement." The infant's class in North Street School was below ground level, in a large partitioned basement with three stories of older children's classes overhead. Wendy could not picture a safer spot — protected by God's Grace and tile floors.

The peeler touched his helmet. "Then you'd best get to your work." She started off fast, to please the bobby — not afraid, just late. Heavy smoke hung over Southwark. Warehouses were burning, but the planes themselves had vanished. The double beat of their engines faded over the East End — new to being bombed, she supposed the raid was over. Wendy Moira Angela Darling was as raw as the rest of London.

Half a block from the school she came on the crowd, and heard the clanging fire trucks. She jostled her way to the front. Frantic mothers combed the throng, jerking dazed children around to search their faces. Cries of thanksgiving mixed with agonized wails. Wendy grabbed a teacher. "What's happened?"

"Angela, where were you? It came through the roof, dragging an older child with it."

Wendy let the woman go, pushing into the school, descending into the wrecked basement. The bomb had hit the roof, split in two, and punctured three floors before exploding — as though an invisible hand guided it to the infant's class. Sailors carried out the wounded in blankets, sobbing as they worked. Only the dead remained at their desks. Wendy began brushing off dust and rubble, straightening limbs, trying to make her still charges comfortable. She had seen maimed children before, scores of times — but always in Neverland, where death and life are dreamlike things. In London it was too horribly real. All she could do was cry and wipe at blood with the hem of her dress.

A week later, a full quarter of the infant's class was lowered into a common grave at East End Cemetery, with the Bishop of London doing the services. Condolences came from King and Queen. Black floral wreaths read — "To our children murdered by German airmen." Only two of the dead were more than five years old. Feeling ran so high the King swiftly changed the royal family's name — Windsor sounded more British than Saxe-Coburg-Gotha.

Wendy never went back to North End Schools. She never wanted to be

in the building, which heartless people were busy repairing. What could she say to the children who survived? She hardly knew what to say to herself. She had always lived full out, with a child's absolute abandon — now she felt ragged and faded, overrun. The War had been a far-off brainless endeavor that tootled along without her, as distant as Neverland, something in the papers to be taken with morning tea. Zeppelins prowled at night, scattering bombs. Endless "pushes." Draft after draft of young men sent off. Michael was a railway engineer — exempt. John was a balloon observer, somewhere in France. Peter was in Neverland, fighting pirates. One was as real as the other.

Mother used to rummage through her mind at night, tidying up unpleasant thoughts. But now Wendy had grown up — a day ahead of other girls — and she lacked Peter's knack for forgetting. Images stayed with her, a smashed chair, charred rubble atop a broken child. If she could not forget, she needed to do something, or die inside. Mother thumbed through the papers, hoping to find a place for her. "They say they need nurses' aides."

"Shouldn't wonder," Wendy grimaced, "trying to patch up boys as fast as rapid-fire guns puncture them — there's a useless task." She had seen enough of mangled young bodies.

"There are great cries for young women to do munitions work."

Wendy made a mouth. "Totally ghastly. Sitting in rows, screwing fuses into shells. A thundering bore, unless your shop chances to blow up. I'd rather be a balloon observer."

"Really, dear?"

"My, yes. Open air work, getting God's own view of France. I could plot shell bursts as neat as John."

"No doubt. But they aren't asking women to do that."

"Or I'd even bomb a German aerodrome." Wendy had no desire to kill Germans — not the way she and Peter had cut pirate throats when she was a child. But bombing them back seemed letter perfect. "They say the Wong-wongs are based in Belgium."

"They don't want women for that either."

"Why not? The Russians have women pilots. Two princesses have already signed up."

"What would you expect when the prime pastime is flogging the serfs? Makes America seem civilized." Mother gave her the sweet mocking smile that reminded Wendy of Peter, showing off the one kiss you could never get.

There was the usual riff in Parliament over the raid. The Minister of War proudly announced, "not a single soldier had been killed." Not just a lie, but a stupid one as well. The MP for the City of London wanted the bells of St. Paul rung backwards in case of attack — "So bank clerks would be warned to get the money back in the vaults." Young Winston Churchill's prewar promise that enemy aeroplanes would be met by a "swarm of hornets" was sarcastically recalled. Wendy doubted any man in office cared a fig for the infants' class, until she read a crack fighter squadron was to be brought back from the front. "The best machines. The best pilots," she crowed. "To be based in Bekebourne, between London and Flanders, directly in the path of the attack. There's my billet. Fliers straight from the front, probably in desperate need of mothering."

Mother raised an eyebrow. "We don't know the Royal Flying Corps wants young women hanging about their aerodromes."

"Oh Mum, it would be a pilot's dream."

She took the train to Canterbury — in cricket weather, a beautiful hot blue day with hardly a cloud. Perfect bomber weather as well, with southeast England laid out like a plate. Getting to the aerodrome was alarmingly easy. Fliers from Fifty-sixth Squadron were roaming the streets of Canterbury, searching for willing young women. She was swept up in a crowd of pretty barmaids and errant school girls. By dinnertime Wendy was standing in an evening dress at the edge of the field, sipping French champagne, while a pair of pilots stunted to impress them. White tables glittered with silver and china.

The planes were like nothing Wendy had ever seen, brand new Scout Experimentals. SE5 biplanes, bristling with machine guns, speed built into every line, their long lean fuselages half taken up by Hispano racing engines. Climbing a thousand feet a minute, they looped, rolled, and plunged into screaming dives — all without the least sign of coming apart in midair. And she never expected the fliers to be so young. One of the stunters, Ryan Donnelly, was introduced as an "old man" — at it over two years — a strapping young Irishman who had survived the Fokker scare, the Battle of Somme, Bloody April, and the latest push in Flanders. That spring he had turned nineteen. At twenty-two, Wendy felt twice his age.

She danced with this pink-cheeked killer under a candle-lit marquee, while the squadron band played brassy music — "Pack up Your Troubles"

and "Swanee River." Ryan was able to say the most appalling things in a sweet Irish brogue. When she complimented the band, he laughed briskly. "Thankee. The Major scouts the depots. Aims to have the best squadron band in the bloody RFC. Whenever a new horn player or violinist shows up, he swaps them for some fellow who's lost his nerve."

She mentioned the raid. Ryan replied, "Capital bit of work. God bless Old Jerry. God bless the Gotha." He sounded like Peter giving a cheer for the pirates. "Hope the Kaiser gives them all medals."

"You can't really be glad it happened?" She thought of children dead at their desks.

"Lord yes. A week ago I was doing dawn contact patrols against really nasty Huns, brutes who were having us for breakfast. Damned active and dangerous. Now I'm sailing about on a head full of bubbly, with a smashing girl in my arms. Not above time, if you ask me."

She was surprised, and pleased, being called a girl again, even by a smiling madman in RFC khaki. "Smashing" was mere icing on the cake. Was this Peter grown up? Wendy no longer waited by the nursery window, but still had Peter in her heart — the wild terrible boy who had taken her beyond the sky, vowing never to give her up, then forgetting to come back. Ryan had the wildness, the cool cutting disdain, but he was more cynical and clearsighted than Peter could ever hope to be. He spun her around the dance floor, then led her out onto the long grass, buoyed by the band music. A single SE5 scout stood parked at the near end of the field, gaunt and angular, its upper wing topped by a Lewis gun, reminding everyone what Fifty-sixth Squadron's business was. What the party was about.

"Kiss me now," he suggested, holding tight to her waist, hair tousled, tunic open. This was what war demanded — lightning dalliance. Instant love making. No time for tedious romance. Posters on every street corner proclaimed the only man worth having was in uniform — but you had to kiss him quick. Death was in the wings. "Ten days and I'll be gone."

"Ten days?" She was aghast.

"Back to France."

"What about London?"

"Come, do you think a government that wastes two-thousand a day in the trenches frets over babies and shopkeepers? Only more bombing will bring us back."

She insisted that was barbaric.

He gave a snort. "A flier fresh up from school lasts barely a fortnight at the front — that's barbaric. Ten days is a lifetime. Two months and you're an arrant coward, or a stone cold assassin. Maybe both." Ryan did not need to add that he had been at it two years. "Do you know what we'd do if we got our hands on one of your baby-killing Gotha pilots?"

"Folks in the East End aim to bring back the rack and burning irons."

"We'd give him dinner and bubbly, treat him to a concert, then pack him off to a prison camp. Because there is no enemy more barbaric than the bloody Royal Flying Corps." The band played "Tipperary" in the background. This lost boy's hands had gotten inside her wrap, one in the small of her back, the other working down her spine, pulling her closer.

"So you have no scruples?"

"Gawd, I hope not. Can't afford 'em in my line of work. Not if yew plan ta die of brandy an' old age."

With their lips about to touch, she whispered, "Promise to take me flying."

"Impossible." He pulled back, looking askance.

"Why?"

"An SE has only one seat." Ryan nodded at the plane, silhouetted by the bandstand.

"There are plenty of other types." Wendy was heartless. Paris might be one big knocking-shop, with Red Cross nurses handing out condoms in the rail stations — but decent opinion expected Ryan to die without ever fucking a real English virgin. Besides, she knew she would get nowhere by being the accommodating doormat. "What if I told you I had already flown beyond the stars?"

He frowned. "I'd say you had wandered. Gone with the Faeries. I'd get in trouble — rules forbid taking female mental cases up for a fling."

She leaned closer, letting one handcup her breast. "How much trouble?"

"Done deal." He kissed her, harder than Peter ever had. A lewd sensual kiss, his tongue exploring the corners of her mouth. French girls must have taught him that. Wendy came away feeling a good deal less of a virgin.

"Now, take me up," she told him.

"Not tonight." Ryan eyed the party sprawled over the field. "Too chancy."

"When?"

"Tomorrow at twilight. Got to get the right bus."

"Get one with dual controls."

He looked shocked. "Where does a proper young lady learn about dual controls?"

"Where did you learn to kiss like that?"

"Righto. Dual controls." They walked back hand-in-hand.

Next evening a big angular two-seater waited alongside the SE5. Ryan met her at the edge of the aerodrome with a flight helmet and leather jacket. "Here, take these. I'll help you aboard. Curl up in the front cockpit, so the mechanic won't see you when he spins the prop."

"What sort of plane is it?"

"BE2c. Prewar bus. Grandmother could fly it, and probably did. Built to give Jerry something to shoot down." Both the BE2 and the SE5 were Royal Aircraft factory designs. Side by side Wendy saw the family resemblance — a stately old Lady and her ripping young grandson. Ryan gave her a dash of quick instruction, with cheerful references to ground loops, dead stalls, and spinning out. Then he helped her into the front cockpit, through a tangle of bracing wires. "Keep your head down, while I fetch the mechanic."

Wendy waited, head between her knees, bursting with anticipation, listening to Ryan whistle a jaunty air and joke with the mechanic. To be safe, she did not look up until they were aloft. When she did look, she gasped. She was flying again. Not flying free like with Peter — but suspended in a fabric box, with nothing to hold it up, just a madly racing engine and wires everywhere. Air pressure bellied the wing fabric. Thirty-seven feet of wingspan might seem ample on the ground; up here it was nothing, as much a marvel as pixie dust and lovely thoughts. After years of living with memories, it was like touch or sight returning. Flat landscape slid beneath the lower wing, green woods, dark brown fields, gray cloud shadows. Dim blue lines of smoke rose from towns and country houses. Far off, beyond Dover was the sea, a sharp blue arc on the horizon. She felt free for the first time since leaving the infant's class.

Ryan cut the engine. Dead silence. She expected to fall, but they kept on flying. He tapped her on the shoulder, shouting, "You're in a glide. Try the controls. But don't pull back the stick. You'll stall us out."

Gingerly she pushed the stick forward. The nose dipped. The glide

became a dive. Seeing the ground rush up, she eased back. "Not too far," Ryan shouted. "Try a left bank."

She banked left. God, it worked. She had done it. Land rushed by between the wing tips, getting closer. "Keep going, into a turn. Righto. Rudder. Ailerons." She leaned into the turn. The machine leaned with her. Over we go. Think wonderful thoughts.

"Good girl. Try the other way. Aim for that field to starboard." She turned again. Ground hurtled at her. At the last instant Ryan restarted the engine. She hopped hedges and trees, setting down in the fallow of a Kentish field.

Wendy was wildly exhilarated. "Now let me do a takeoff."

"Too risky," Ryan told her, doing his utmost to take advantage of her exhilaration, though there is only so much advantage to be had in an open field from an excited female wearing a full-length dress, layers of petticoats, and a leather flight jacket.

She jerked his hands out of her jacket. "Teach me to take off, or I'll find a flier who will."

"Gawd, you're the one with no scruples."

"Can't afford 'em."

He let her take off. She saw sunset from the air, a rim of fire sinking into black cloud banks. Darkness spread over the earth. Wendy imagined she hung alone under the first evening stars — with Neverland below. A rattling taxi took her back to Canterbury.

For more than a week she stole flights. Ryan called her a born pilot, but it was really all that flying with Peter. She found herself hoping the Good Old Gothas *would* return — before Fifty-sixth Squadron was sent back to the front. Two days shy of the deadline, she saw the squadron scrambled. Men raced for their planes. SE5s roared into the air. But the Wong-wongs disappointed everyone, barely crossing the coast to bomb Felixstowe Naval Air Station, breaking windows in Harwich and slaughtering a flock of sheep. None of the pilots scrambled in Kent so much as saw a bomber.

On Ryan's last night she took him to London. The Bloody RFC did not let its fliers dance in public, but Wendy discovered a club in Kensington that flouted the law, supplying fliers with drinks, music, and a dance floor. Red-coated old doormen, smiling hostesses, and a Black jazz band conspired to give airmen on leave a good time — couples swayed illegally around the dance

floor to sentimental favorites and ragtime. The club's motto hung above the bar: *Work Like Hellen B. Mary.*

She spent half the night drifting with the rhythm, her head on Ryan's shoulder. Then they took a turn standing on the roof walk, a narrow sooty platform looking over chimney tops onto the lights of Kensington Gardens, where Peter first ran off to be with the faeries. For Peter's sake she had tried to avoid growing pains, but now she was putting childhood behind her. At twenty-two it was not before time. Feeling a sudden urge to say what she liked, she whispered to Ryan, "Don't go. Stay here. Keep teaching me to fly."

"Afraid the Huns will shoot me down?"

She nodded.

"They might. But if I don't go, the RFC surely will. Refusin' ta fight is business for a firing squad. I don't fancy standing with my hands tied and a hanky over my face, puffin' a cigarette while nervous blokes pot shots at me from twenty paces. Bloody Red Baron's more sportin' than that."

She stared hard, betting that behind that fine spoiled conceit he was scared down to his socks. "Have you ever killed a man?"

"Several for sure."

"And seen them die?"

"The last time was a Rumpler over Poelcapelle. Engine caught fire. The pilot jumped at fifteen-thousand feet, to save himself from burning. Observer rode the bus all the way in. Not the same as sticking someone wi' a bayonet and seeing him squirm — still a fairly raw business."

"But you never held someone down while two boys slit his throat?"

"Not much call for that in the Flying Corps — one of the reasons I like my line of killing." He asked where she ever got such notions?

She shrugged. "Oh, I've done it. Scores of times."

"You're more mad than I am."

"Much more." She looked up at the stars. One twinkled down at her, saying, "Silly ass."

They took the train back to Canterbury. At dawn she stood at Bokesbourne aerodrome watching the squadron rev up. The SE5s took off, formed into flights, and wheeled toward France, disappearing into a glorious cloud-free sky. Twenty-four hours later the Gothas returned, flying in neat fan-like formation into the heart of London. No horns gave warning. No sirens sounded. Their approach was so low and leisurely no one around Wendy

supposed the aeroplanes were German until the bombs began to fall.

Peter struck. John clapped his hands on the ill-fated pirate's mouth to stifle the dying groan...and the carrion was cast overboard. A splash, and then silence.

"One!" (Slightly had begun to count.)

—*Peter Pan*, J.M. Barrie

STRAIGHT ON TILL MORNING

BY SEPTEMBER the bombers came only at night. No one called them Wong-wongs anymore—Londoners knew the name Gotha all too well. The thrill of first being bombed was long forgotten. When the Prime Minister toured the East End, mobs of women rioted, jeering at the bobbies sent to force them back to factory and kitchen. Wendy did not join in, but she understood, and planned her own revenge. Planes were brought back from the front—but not Fifty-sixth Squadron. Aircraft went straight from the factories to Home Defense, despite howls from the RFC brass, who hated the notion of even a single flier escaping the carnage in Flanders. Fortress London was ringed with airbases, balloon aprons, and anti-aircraft guns, which merely forced the raiders to return by night. People learned a new phrase to go with Gotha—"the bombers moon."

At first there were parties in the Underground, people drinking and joking long after "All Clear." Bobbyies had to be sent down to drive them back out onto the streets. As moonlit nights dragged on, the parties ceased, sanitation overflowed, tube stations reeked, trains stopped running, fights started—the poor of the East End, always in the path of the bombers, took to sleeping in the Essex countryside. Wendy herself never sought cover, not expecting a bomb would get her until she did what she meant to do. At night she strolled past omnibuses abandoned in the middle of wide thoroughfares, like wrecks on a moonlit sea bottom. Walking was the only way to get about. There was not a taxi to be had, or a light to be seen except for the stab of searchlights and the flashes of anti-aircraft batteries. Thousands of shells were thrown into the night sky by blinded and deafened gunners, firing until their barrels were red hot despite torrents of water pumped over the guns.

Some nights falling shells caused near as many casualties as bombs — but they had yet to bring down a bomber.

In Flanders a new push was on, full of blood and fury. Wendy had no worry of it winning the war before she got her whack in. Ryan had written her, "the brightest lights on our general staff are best fit for bucketing out latrines — this is another absolutely brilliant scheme to move the mud about, and kill countless boys."

She did not see Ryan again until he tipped her that he would be visiting a French aerodrome near Dunkerque. Wendy took the cross-channel steamer to France. The French did not mind their fliers getting female attention. Wendy was feverishly entertained by the Third *Escadrille* of *Les Cigognes*, the Storks. The RFC acted as if it was ashamed of its airmen, but the *Aviation Militaire* took a Parisian approach to pilot morale — the top French and American fliers were grouped in special *escadrilles*, with special insignia and first rate fighters. Nothing was too good for *Les Cigognes* — cases of champagne, pretty blonde mistresses, a pet lion cub that Wendy got to play with. Pretending to be entranced by her school-girl French, they gave her the Cook's tour of the aerodrome, hoisting her into the cockpit of a high-compression Spad to feel the controls, escorting her through the hangars, explaining the workings of a motor-cannon.

Wendy noted stacks of aerial grenades, asking what they were for. Her guides assured her they were for "*Le Boche*." They pantomimed pulling the pins and the bombs exploding. Wendy nodded. "*Pour le Boche*."

Right on schedule Ryan arrived. He had come to show *Les Cigognes* what an SE5 looked like, so the Storks wouldn't shoot them down by mistake. While the men inspected the British fighter — running its engine and shouting comments — Wendy picked up her bag and walked casually back to the hangar. Opening her valise, she stuffed four of the small bombs inside it, cushioning them with a change of underwear. She was back on the flight line before anyone missed her — thinking how if she had taken Mum's advice, and gone into munitions work, she would never have needed to be so devious.

The Storks wanted more than a look at the SE5, so a mock tournament was arranged, with Wendy as fair lady. Ryan got her scarf. Guynemeyer, the ailing star of the Stork *escadrille*, was lifted into one of his three personalized Spad fighters, to be matched against Ryan in the SE5. Frail as glass on the ground, Guynemeyer was an absolutely nerveless flier, with the cold hard

eyes of a corpse-fly. Wendy saw her brave knight bested a dozen different ways. The Frenchman's Spad was all over the SE5, above, below, and on its tail. There was no way that Ryan could have ever gotten a shot off. When it was over, Ryan shook Guynemeyer's thin white hand, and returned the wipe to Wendy, saying, "Lass, I never claimed to be the best." It was a delight to see him all the same, lunching on sweet wine and sugar cakes in the French mess.

Weeks later, back in London, Wendy read that Guynemeyer was dead, shot down in flames over Poelcapelle. Just like Ryan's Rumpier. It was sobering to know that being the best was not near good enough.

Her next letter from Ryan did not come from France—it was posted from a London hospital. Wendy was off in a shot, without checking on visiting hours. The hospital confirmed her view of wartime nursing, being cram full of the war's wrecks and rejects, stitched up boys too badly maimed or blinded to be of use—if they were aircraft they would have been broken up for spares. Since they weren't aircraft they were filed away in a big building, watched over by underpaid women and offensively chipper young doctors. A useless exercise that Wendy was well glad to be clear of. Expecting to find Ryan flat on his back, looking like a day-old corpse, she was cheered to see him in prime spirits, sitting between clean sheets—fed, bathed, and flirting with the nurses, who claimed he had been the perfect patient. "Didn't ask for his Mum more than once an hour."

Wendy shook her head. "Good old Hun did it again?"

"Righto, he got me another leave." Ryan reached down and patted his leg, swathed in bandages, but plainly still there. "Couldn't have placed the bullet better myself."

Now that she saw he was going to live, she felt free to sit down and cry, shocked at how much she had come to love him.

"Here, here." He took her hand. "Come, stop crying. 'Tis the bunion on my good foot that hurts the worst." Ryan did his best to be breezy and charming, full of that refuse-to-grow-up boyishness she so loved in Peter. Not fit to be turned loose in a drawing room, but a sure friend and would-be protector—all set to be her *beau sabreur*. Lifting his bandages he showed off the red puckered mark the bullet had put in his leg. "All my own fault, really. Tangled with an Albatros two-seater over Passchendaele. The Hun was poking along, taking his pictures, being a friend to the world. I thought I'd bag

him. You know, boost my record — Heaven knows what for. But he bagged me instead."

He assured her other chaps were doing far worse. "Did I tell you Rhys-Davids is dead?" Wendy shook her head. "And Cecil Lewis was jumped by one of the new Pfaltz scouts — shot in the back and nearly spun in. They got him working Home Defense. Squadron's not what she used to be in the old days back at Bekebourne." By that he meant three months before.

As soon as Ryan was up and limping, showing a bit of his old bounce, Wendy begged him to take her flying. At first he was aghast. "Not for a colonel's commission an' a cup o' tea." But she worked him around to where he consented, "weather permitting." He got the use of a BE2d attached to a flying school. "Told them I was keen to keep my hand in — frightfully eager to get back at the Hun — bloody idiots believe anything from a sod who sounds anxious to fight."

The BE2d was an "improved" version of the old BE2c, twice as ungainly, with greater range and a gravity tank. Ryan stored it in a small shed, where Wendy could get in the front cockpit and slump down without being seen. He would open the doors and get someone to swing the prop, or swing it himself while Wendy kept the throttle from opening too far. Then it was taxi out and take off. Right away Wendy was doing vertical turns, stalls, loops, spins, and split-arse spirals. All that flying in Neverland had made her a natural pilot. Ryan called it uncanny. "Normally a BE2 lumbers like a busted lorry. Never seen a student put the old trot through her paces so neatly."

Wendy shrugged modestly. "Angel is my middle name."

"Right. Well, don't let anyone catch you at it," he warned. "The RFC will put you in pants and hustle you into combat."

"Oh, I doubt that."

"They're mean an' desperate men." War in the air was going as bad as always. At mid-month Zeppelins had stalked the Midlands, scattering bombs from Hull to Sheffield. Now the October moon was getting full again. Bombers hung off the coast.

But Ryan's warning did not stop Wendy from showing up in a flying suit for the flight school's Halloween dance. Ryan came dressed as the Red Baron, full of his customary impertinence, with a cardboard and tinsel *Pour le Merite* around his neck. The dance was held in an open hangar, under a big full Halloween moon. But it broke up early as the London defenses banged into

action — firing at Gothas trying to get in. The flight school CO came around, silencing the band, saying the party was done with. Ryan asked who put the wasp in his pants. "Why can't we keep at it? Dancing's not going to draw bombers."

The CO fixed him with a constipated glare. "'Fraid it's not just London. They're hitting Dover, Margate, and the Camps around Canterbury. More bombers are crossing the coast between Harwich and Southend. Could hit here anytime."

Wendy pulled Ryan aside. "Do you love me?"

"Of course, lass. Terrific time to ask." Ryan was still royally pissed at the CO. He slipped an arm around her. "I've not been riskin' life an' reputation all for the thrill of seeing you fly. I mean to parlay this game leg into a cushy billet, tourin' lady's clubs, tellin' tall tales of combat — never gettin' closer ta France than Brighton. Then after the War...." After the War was the pilot's pat line.

She reminded him there might be no after the war. "So say you love me now."

"Yes I love you. Ye forward hussy." He kissed her and came away smiling. "So let's go somewhere private an' compare birthmarks."

"Not tonight," she told him, "I've got too much to do in the morning." She let him kiss her again. A long lingering kiss that took total possession of her mouth.

When the couples were gone, and the bomber's moon filled the sky, Wendy stole back across the field, soft-footed as she could, still in her flight suit. Her time was now. Not one to procrastinate or play-act, she did not mean to wait about, like she waited for Peter, trying vainly not to grow up. Opening the shed gates, she slung her valise full of stolen grenades into the BE's front cockpit. She leaned in, cracked the throttle, then went to spin the big four-bladed prop. Never having done it before, she took several heaves getting the 90hp RAF inline to turn over. Its roar shattered the early morning silence. Racing around to get in the cockpit, she was nearly too late. As she pulled herself aboard, the BE2 gathered way, bouncing out of the shed, dragging Wendy with it.

She had set the throttle too bloody high. Luckily controls were in neutral, and the BE2 was "inherently stable." Particularly when still on the ground. The aeroplane charged onto the dark field like an overeager racehorse

— through the starting gate with her jockey half in the stirrup. Wendy managed to tumble headfirst into the front cockpit, working the rudder pedals with her hands, easing back on the throttle. The big plane turned to face the runway, rolling to a stop. Ready for takeoff. She scrambled into her seat, muttering, "Well begun is half done."

After the wild taxi onto the field, her first solo takeoff was anticlimax. Throttle forward, get her rolling. Forward elevator. Wendy felt the tail go up, and eased farther back on the stick. Wheels up. She was airborne.

And blind as a bat. The huge round Halloween moon threw precious little light into the cockpit, which was not lit for night flight. She sat in a black inkwell, unable to see her instruments, with no indication of air speed, engine revs, or oil pressure. She was fairly confident she could fly by feel — but what if something went out? Well, if it did, she was sure to know. Even worse, she could not see her compass. How was she going to find the Gotha fields in Belgium with no bloody compass? Wouldn't do to dump her French grenades on Sheerness, or Switzerland.

She pulled back on the stick, climbing toward the full blue bomber's moon. There were patchy clouds over Essex. Once clear of them she could see the biggest compass of all — the great inverted bowl of the sky, blue-black and studded with stars. Putting the Dippers over her left shoulder she headed south and east toward the channel, and Flanders.

London hove to on her right, a vast dark mass crouching behind her defenses. No blackout could hide Europe's largest city. She saw gunflashes over the East End, and a big blazing fire set by incendiaries. Keeping the fire under her right wing tip, Wendy searched for the shining ribbon of the Thames, knowing she could follow the broad river down to the sea.

Without warning, ghostly lines appeared in front of her, hanging from huge swaying shapes. A balloon apron. Wendy swerved, dodging the dangling steel cables. Without a compass course, she had cut her angles too close, brushing the inner defense ring. Searchlights winked on. A shell burst beside her with a bang you could have heard in Scotland. Someone below had heard her engine. More shells exploded — weird faerie shapes, full of smoke and singing steel. Gunners were throwing up a barrage to bring her down.

Wendy cut her telltale engine and dived, banking left. She headed east toward the fighter patrol lines — a wide gun-free zone prowled by night fighters from Hainault, Sutton's Farm, and Biggin Hill. She tried to remember

everything Ryan had told her about the fighter lines — set patrols at standard heights of 10,000, 11,000, and 12,000 feet. Righto. The Good Old BE2 could barely touch 10,000. She'd pass under them. Nothing to worry about until she got to the Green Line. Alone in her black cockpit she had to laugh — bent on bombing the Germans, her biggest problem was escaping London defenses. Trying not to get shot down before she started. "Peter. Tink. Are you there? We could use a hand here."

No answer.

"Well, girl, we'll just have to go it alone."

Lighted aerodromes guarding the city formed a glittering ring. Flying on, she did not know she had crossed the Green Line until a searchlight beam swept over her. The beam whipped back, pinning her plane to the night sky. Wendy sideslipped. More searchlights converged, trapping her in a cage of light. Guns opened up, blowing big smoky holes in the night sky. Wendy cut her engine again, pushing the stick forward into a screeching dive. Wind sang in the wires. Flack banged to wake the dead. The whole machine shook. Blinded by the lights, she screamed — "Don't kill me, you bastards. I'm British."

As she burst through the outer ring, firing stopped. Pulling out of the dive, Wendy glided silently over Kent, leaving the flack and searchlights behind. Below lay a new landscape, softly moonlit, cut by pale roads and dark hedgelines. Rooftops shone above lighted windows. She passed over a train that snaked along following two glittering tracks, throwing up a great feathery plume of smoke. Michael might be the driver. Forget following the Thames. She was not going back into that hell of guns and lights. Restarting her engine, she climbed, parting the clouds. The stars grew closer. Light from the big friendly bomber's moon bathed the wings and fuselage, turning the BE2 into a ghost ship.

Without clock or instruments the flight became timeless, like her first trip to Neverland. Ahead she saw the black shape of a steamer, and the shining V of its wake, headed out to sea. The way to Neverland lay over the water. "Second star to the right, and straight on till morning" was what Peter had told her, but he said whatever popped into his brainless head.

"Peter, you said you would come for me."

No answer, just the throb of the engine.

She banked, putting the North Star off her left wingtip, pointing the BE's

nose toward morning. Dark air streamed past. Sea turned to land. In the distance Wendy made out a thin sliver of light. First light already? She was amazed. Dawn ought to be a ways off. How much time and fuel had she used up, dodging balloon cables and searchlights? She meant to be deep in Hunland before the sun was up.

Flying straight for the red glow, Wendy watched the shining spread in both directions, separating into ten thousand pinpricks of light. It was not dawn at all. It was the front. A "push" was on. Flares were falling. Artillery fire flayed the trenches, bathing Flanders in a ghastly manmade glow visible from two miles up. Night turned into day by magnesium and cordite — a sickly reminder of what business Wendy was about.

The smoky glare of the guns passed beneath her. Wendy was over Hunland, occupied Belgium. All she needed was to find an aerodrome, hopefully a bomber base — drop her bombs — then head home. "Easy enough." Only here aerodromes weren't lit up like Hainault and Biggin Hill. A morning fog was rising, making it impossible to just fly low and look about. She had expected this bit to be titchy. Ryan told her the Gotha bases were well back from the lines. The farther she went, the better her chance of pouncing on a bomber base at first light, but she would have the Devil's own time getting back — unarmed and low on fuel. Wendy had not brought a machine gun, a noisy nuisance that should never have been invented. The added weight of gun and ammo would have made her fuel shortage that much worse. She cut the engine and let the ship glide, to save fuel and think clearly. Black velvety silence descended, turning her into a noiseless wraith, an avenging angel, silent and invisible. The false dawn of the front faded behind her. Fog thickened below.

Halloween night was past. It was All Saints Day, when the gates between the worlds open and the dead mix with the living. A bright star shone in the East. Wendy thought it might be Venus — but it came toward her, growing bigger, until it was about the size of her fist.

The fist-sized spark lighted on her stopped propeller blade, danced along the engine nacelle, and came to rest on the windscreen. At the center of the glow sat a pretty well-rounded girl, no larger than Wendy's hand, wearing a square low-cut leaf.

"Tink! Tink! After all this time." Tears shone on Wendy's face. High over Belgium she knew again that Neverland was real. She had not dreamed

it.

Tink answered in a burst of chimes, "Silly ass."

"Tink, guide me. You'll do it won't you?"

The faerie did not reply. Instead she rose, whipped through the maze of wires and darted off, ahead and to the right. Wendy gunned her engine and banked right. She knew Tink would take her there. Tink hated her passionately. In Neverland Tink had led her right into an ambush — only an acorn button saved Wendy from an arrow in the heart. If there was a Gotha's nest ahead, bristling with guns, Tink would lead her to it.

Dawn, real dawn, showed in the east. On the outskirts of Ghent the faerie dived down into the fog. Wendy cut her engine and followed. The light in the east was not nearly enough to penetrate the night and fog over Ghent. She kept her nose pointed at Tink's glow, wondering if the faerie meant to lead her smack into the ground. Wendy didn't expect such low meanness even from Tink; she looked for a more subtle betrayal.

More faerie lights appeared. Two pairs, one on each side of Tink. Surprised by faeries flying in formation over Ghent, Wendy eased back on the stick, slowing her dive. She cut her engine and listened. That small hesitation saved her. From out of the fog came the double roar of engines. A giant tail marked with black crosses reared in front of her. Sideslipping frantically, she kept from stalling out, nearly gliding into the Gotha. What she thought were faeries were the glowing exhaust stubs of paired Mercedes engines.

Wendy heard Tink laugh. More Gothas were circling above and below, propellers churning through the murk, their familiar Wong-wong filling the fog. Ahead she saw searchlights, not beating about like over London, but standing straight up, marking the limits of a runway. She had barged straight into the landing pattern at a bomber base. Instantly she gave the BE full throttle, shooting straight ahead, knowing nothing botches a landing in fog like a plane bursting out of nowhere. Roaring through the landing pattern, she grabbed up the grenades she had stolen from the Storks. With nothing to aim at but the searchlight beams, she sideslipped, pulling the pins and hurling the grenades one by one at the vertical columns of light.

"That's for the infant class," she called out smugly.

Wendy doubted anyone heard her, or that the grenades hit their targets — but the effect was magical. Searchlights winked out. Machine guns

stuttered below her. German 77s began to bang wildly into the fog, proving Hun gunners were as flack happy as their British rivals. As she pulled up a Gotha sailed past, one engine afire, weaving frantically through the flack. Dodging the bomber, she climbed out of the witch's cauldron, into the upper air. Whatever went on below, Wendy had done her best.

Putting dawn at her back, she headed for home, drained and exhilarated. Going flat out, the BE2 could not manage much above 70 mph. Dawnlight filled the cockpit, and she saw she was dangerously low on fuel — still she had to push for altitude, taking up time and gas. Flying low over the front would be begging for a bullet. Too many keyed-up gunners crouched in the trenches, pounded by artillery and aching to shoot back.

Tink fluttered back and forth, doing rings-around-the-windscreen.

"Can you spare some pixie dust? We may need it."

Tink chimed back, "Silly ass."

Every half minute Wendy would glance over her shoulder, into the blinding glare of an angry sun, imagining black specks closing in behind her — "Beware of the Hun in the sun." But she saw nothing. Half an hour and she would be across the lines. Clear and free.

Despite constant effort, Wendy never saw the hunter coming. One moment the sky was clear as new blown glass. The next moment it was filled with the mad stutter of twin Spandau machine guns. Wendy very near gave birth, rolling sideways. Tracers zipped by her wing, leaving lines of smoke like paper party streamers. Horrified, she searched frantically over her shoulder. All she saw was the white evil-eye of the sun.

Another stutter. More zinging tracers brought Wendy up sharp. She did a violent skid to port. A black machine hurtled past, with rounded wingtips, a sharp nose and shark-like body. A jet-black Albatros with white crosses. The Hun, fooled by the lumbering pace of the BE, had overshot. If Wendy had a gun she'd have gotten a good clean whack at him — but she was totally unarmed. Even her grenades were gone.

Taking the measure of his victim, the killer did a slow Immelmann, a half-loop half-roll — full of lazy contempt. He had her helpless. Terrified, sweating in her flight suit, Wendy watched him curve above her. Sunlight played on his wings. The black bird of prey could outrun, out turn, and out climb her. "Inherent stability" made the BE2 hopeless in a dogfight.

"Please, Peter. What can I do?"

No answer. At the top of his arc the Hun nosed down to bring his guns to bear. Wendy had only one trick in hand. She jerked back on the stick, standing the BE2d on its tail, cutting the engine, bringing herself to a stop in the air.

Tracers zipped by — red hot rivets trailing smoke, short and to the right.

Before the Hun could correct she kicked her rudder over, falling off to the left, into a flat spin whirling like a dead leaf. Sky spun around her. Sunlight flashed through the cockpit. Wendy kept her gaze pinned to her altimeter. Feet ticked away...6, 000 5, 000 4, 000.... No sense looking up to see what the Hun was doing. That would mean dizziness. Vertigo. Wendy needed desperately to think. She had a pair of poor choices. She could spin straight into the ground. Smash up. End it there. Or she could push her stick forward and stop the spin. But if the Hun had a half-ounce of killer instinct he would be following her down, making sure she hit the mud. When she came out the bastard was bound to be waiting — 7.62mm bullets would rip through her, tearing big bloody holes. Whirling right into the ground might be better.

Tears stung her eyes. Where was Peter? If she fell, she always thought he would catch her. In her giddiness she heard him.

Hullo Wendy.

"Hullo Peter."

Have you come to fly with me?

"I've forgotten how to fly."

Then what are you doing here?

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What was she doing? It was hopeless to tell Peter about the infant's class. About her grand design. "I'm fighting pirates, Peter."

Hullo, what fun!

Wing shadows whipped past. Three thousand feet...2,000 feet.... Below 1,000 her altimeter was worthless. Wendy nosed down. The ship gathered airspeed and came roaring out of the spin. Instantly she heard the thwack of bullets hitting wings and fuselage, the ping of wires parting. The black Albatros hung on her tail firing merrily into her machine. She'd had it now. No safety anywhere. A bullet-hole appeared in her windscreen, ringed by a web of broken glass. Sick with fear, she looked for a place to crash.

Bullets punctured the gravity feed tank, spraying gasoline over her goggles, onto the hot cylinder heads. Tearing off the goggles, she cut the engine. Too late. Gasoline burst into flame. Smoke shot back in her face, filling the cockpit. She could no longer see the ground, or where she was going. Her engine was a roaring grease and oil inferno. Fire in the air. The ultimate horror. She felt the heat through her gloves and flight boots — smelled the leather on her flying suit start to fry. Pulling her feet off the rudder, she scrambled up atop her seat, putting inches between her and the flames. Trying to steady the stick with one hand, she clung to the cockpit rim. Wind whipped through the wires, threatening to hurtle her into space.

The shooting had stopped. A tiny comfort. She was headed for a crash with her engine afire. Choking on smoke, she straddled the burning cockpit, changing hands on the stick to keep her gloves from catching fire. What could

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she do? Peter. Tink. Where are you? What had Ryan told her? She remembered his story of the Rumpler pilot who jumped to keep from burning. A ghastly choice. Death either way. The man in the rear cockpit had ridden the burning two-seater into the ground.

Of course. It hit her like a brick. Rear cockpit. The Good Old BE had dual controls. She scrambled back over the rear windscreen, sitting in the instructor's seat, seizing the second stick and rudder.

She sideslipped, to blow the smoke away. Able to see again, she looked for a flat spot to crash in. Treetops shot by. A field ahead. Stick back, she flattened out, slowing her fall, trying not to fan the flames. Smoke poured from the front cockpit in a great gray plume. Steady, don't stall. Plowed field flashed under her wings. Ease her down— don't fly into the ground. That's it. Brown furrows rose to meet her. Wheels touched. Bounce. Bang. Now a wingtip. Ground loop. Oh God, over we go.

Almost a landing, not quite a crash. One you could crawl away from. Wendy looked up and saw the black Albatros flash past her, plowing nose first into the field just ahead — making a much worse job of it. She scrambled out of the cockpit and watched her Good Old BE2 burn.

The Albatros did not burn. Nor did its pilot get out. The fighter just stood nose down in the plowed earth, its big rounded tail pointed at heaven. Wendy walked curiously over. The German pilot was slumped against his instrument panel, one goggle lens smashed, his tunic bright with blood. The red gash in his throat made hideous gargling sounds.

A wild, cocky crow rang in the air, echoing in Wendy's ears — Peter's victory call.

German shock troops came running up waving their Mausers. She turned to face the rifles, spreading her hands apologetically. "I'm afraid he is dead."

The shock troopers hardly knew what to make of her after they washed the soot from her face and found she was a woman. Wendy was half sure they would just shoot her, the way they shot Nurse Cavell. Two weeks before the French had marched the Dutch dancer Mata-Hari out onto a Vincennes parade ground and shot her dead. But since Wendy was wearing a pilot's uniform the troopers merely took her to the nearest aerodrome, the Gotha base at St. Denis. There she had the satisfaction of seeing four newly wrecked Gothas that had come down in the fog, victims of botched landings and

German ground fire. Four grenades, four bombers — not a bad bowl.

Shock troopers also handed over the pilot's papers and the *Pour le Merite* he had worn around his neck. The ribbon supporting the iron cross was soaked with blood. Asked for an explanation, a trooper shrugged and drew his thumb across his throat. How an expert pilot could get his throat cut in midair was a mystery to this simple foot soldier. But one sees so many strange things in wartime.

Wendy knew, but said nothing. The Huns thought her mad enough already.

The men of the *England Geschwader*, whose main business was to bomb London, were totally mystified by Wendy — but delighted nonetheless. Any woman who would fly a toothless old biplane forty miles over enemy lines, for whatever reason, had their instant respect. Particularly if she was young and pretty. They toasted her with captured champagne and a boy with a beautiful baritone got up to sing "Tipperary" and "God Save the King." Afterward the squadron commander drove her to the border, handing her over to some suspicious but non-belligerent Dutch border guards. He made a halting speech in broken English, explaining that German fliers did not make war on women.

Not if they are above the age of five, thought Wendy, but she let him have his say. She had done what she came to do.

Nervous about their neutrality, the Dutch put her on a boat to Norway. In Bergen she caught a convoy back to England. With four downed Gothas to her credit, and that black Albatros (which she had shared with Peter) — Wendy was an ace, alongside Guynemeyer, Ryan Donnelly, and the Bloody Red Baron. But she was determined to retire. The RFC would have to soldier on without her. Let them care.

In little more than a year, to everyone's vast surprise the war was done with — and the *England Geschwader* abolished, along with the whole German Air Force. The Bloody RFC was already gone, absorbed into the new Royal Air Force. Wendy and Ryan were married, he in his pilot's uniform, she in white with a pink sash. Up until the very last she thought Peter would alight in the church and forbid the banns.



F&SF COMPETITION

REPORT ON COMPETITION 60

In this competition, we asked you to change one and only one letter or number in the title of a novel, and then give us a *brief* description of that novel. While judging, we noticed an alarming trend: very few people altered the titles of novels published since 1980. We applaud your taste (we believe that *everyone* should read Heinlein, Herbert, Asimov, and Bradbury), but with our applause comes a request: For the next year, stop at the new releases section of your favorite sf bookstore. Our genre has published (and continues to publish) some excellent fiction in the last fourteen years.

Stranger in a Strange Band and *Dung* (alternately known as *Stranger in a Strange Lane* and *Done*) win the judges' Please Stop and Think of Something Else award. For the successful something elses, read on.

FIRST PLACE goes to Richard A. Hauptmann of Clovis, New Mexico, who managed to make us laugh not

once, not twice, but five times in the space of a very crabby hour. His winning entries are:

The Forever Bar: A mournful story of tonight's designated driver.

Marooned in Reeltime: Jimmy Stewart laments the annual return of the late-night Xmas season.

Fat's Cradle: A pictorial history of the girdle through time and space.

The Fan Who Melted: The sad tale of a Trekkie whose air-conditioner quit in the middle of the Mojave when she was on the way to a convention.

Ancient of Lays: The autobiographical musings of the legendary Eternal Hooker.

SECOND PLACE goes to Chris McLaren and Tony Moeller, who were so inspired by the contest that they wrote 101 entries and forgot to include their address. Send us a postcard post haste, folks, and we'll dispatch your books as a reward for these entries:

Islands in the Met: wherein

Gauguin's paintings of Tahiti are hung in the famous New York museum.

Yoko: a novel by Peter Straub about the ultimate horror from the Sixties.

Clan of the Cave Bear: a time-travel novel wherein an anthropologist's daughter accidentally leaves her favorite doll behind to be worshipped by Neanderthals.

RUNNERS UP are Dorie Jennings from Penfield, New York, who futzted with the rules slightly in her second entry, but who still caught our attention with her dentistry titles:

The Illustrated Maw: A study guide for dental students.

I Have No Mouth and I Must Scram: and other clever excuses to avoid the dentist.

And Andy Wheeler of Lodi, New Jersey, for his use of unusual books:

Red Bars: A fascinating examination of a rapidly disappearing group of taverns that served the upper echelons of the former Soviet Union.

Harlow's Guide to Extraterrestrials: Newly discovered among the late

actress's papers is this record of several interstellar travelers who visited her during the 1930s.

Lord Foul's Babe: The long-awaited *Third Chronicles of Thomas Covenant, Deceased* begin as our hero is resurrected by Foul's hitherto unseen gorgeous girlfriend.

HONORABLE MENTIONS (or one-shots we couldn't resist):

A classic problem — three doors. Behind one, a tiger. Behind another, a lady. But only a fool would risk opening the third...*The Dork Door* by Kate Wilhelm.

—Nigel Parsons

Victoria Park, Cardiff, U.K.

The Toon is a Harsh Mistress: Jessica Rabbit's secret life.

—Jeff Nicol

Stanhope, NJ

The Once and Future Kong: The mighty ape escapes his cage on Avalon and heads to Britain to unite the world under his Banana Republic.

—Todd M. Greanier

Chula Vista, CA

I, Wobot: Follow the wacky exploits of mechano detective E. Fudd as he tracks a wily, wascally thief through the Caves of Steal.

—Mary S. Price
Chicago, IL

Stations of the Tidy: The nameless slob hero of this fascinating planetary adventure learns just how close cleanliness really is to godliness.

Little Futzzy: A charming novel about

a race of aliens who, I mean, fooled around with *everything*.

—Gordon Van Gelder
New York, NY

Slaughterhouse Dive: Fast times in a singles bar for lonely livestock; a real "meat market" tale.

—Gary DeFrance
Santa Clara, CA

COMPETITION 61 (suggested by John Brunner)

SCIENCE DICTION: Excerpt 100 words from a future article on a science that doesn't yet exist, but uses ordinary words (cf. bite, memory, address, program) in ways as foreign to us as the above would be to a reader of 1890...yet a tantalizing hint still comes across.

An addendum from the contest editor: we do appreciate both creativity and humor. Send your answers by April 15.

RULES: Send entries to Competition Editor, F&SF, 143 Cream Hill Road, W. Cornwall, CT 06796. Entries must be received by April 15. Judges are the editors of F&SF; their decision is final. All entries become the property of F&SF; none can be returned.

PRIZES: First prize, eight different hardcover science fiction books. Second prize, 20 different SF paperbacks. Runners-up will receive one-year subscription to F&SF. Results of Competition 61 will appear in the August issue.

Fantasy & Science Fiction

MARKET PLACE

BOOKS-MAGAZINES

S-F FANTASY MAGAZINES, BOOKS. Catalog \$1.00. Collections purchased (large or small). Robert Madle, 4406 Bestor Dr., Rockville, MD 20853.

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COMING ATTRACTIONS

SPRING, MY favorite season of the year, puts me in mind of summer — lazy days filled with sunshine and warmth. *F&SF* will bring you enough reading to last those long afternoons on the beach. And to prepare you, we give you a strong grouping of May stories.

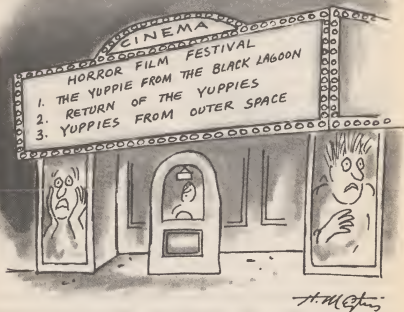
Robert Reed provides our cover story. "The Remoras" is a novelette set on a spaceship where people live for hundreds of years. The Remoras live on the outside of the ship. They were human once, but centuries of hard radiation have changed their genetics and created self-contained organisms living inside their lifesuits. Queen Lee, a wealthy woman who lives in the ship, meets a Remora...and her life is changed forever.

New writer **Ian MacLeod** checks in with a dark fantasy story. Ian burst on the scene a few years ago with award-quality short fiction. "Sealight," his newest story, is set in the not-so-distant past, where men fished for a living and strange creatures lived in the sea. Ian is planning to marry Plir on the morrow, but first he must work. On the sea, he meets a creature that nearly eats him alive. He manages to survive, but his adventures are only beginning....

Finally, **Mary Rosenblum** returns to these pages with a near-future sf story. Mary has spent much of the last year concentrating on her acclaimed novels for the Del Rey Discovery line, so we are glad she's finding some time to complete short fiction. "California Dreamer" is set in a world that has survived the Big One, the earthquake that Californians hope will never happen. Ellen is waiting for word of her friend Rebecca, but when the relief boats arrive without news, she knows that Rebecca is dead. Then a young girl shows up at her door, a girl with a strange story and a stranger woman she claims is her mother. And Ellen must somehow save them all.

In addition to those stories, we will bring you several others, plus

book columns by John Kessel and Charles de Lint, a science column by Bruce Sterling, and a film review from Kathi Maio. Then as you finish the spring cleaning, remember to renew your subscription, because future issues will bring cover stories by Elizabeth Hand and Mike Resnick. Rob Chilson will return with some midnight yearnings, and Nina Kiriki Hoffman will share some haunted humans with us. Bradley Denton will show us that we all love Lydia Love, and Pat Murphy takes us to points of departure. Lots of science fiction, fantasy, and just plain good reading ahead.



The Griffin's head was the size of a panther's, and its wicked curved beak was nearly a foot long. It cocked its head like a sparrow looking at a crumb. A breeze rippled the brown feathers and tawny fur, and BJ shivered....

—Excerpted from *The Magic and the Healing*

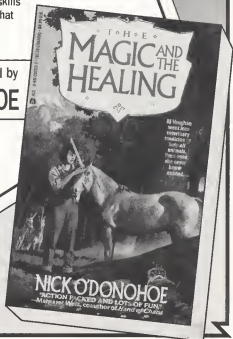
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